

IEC-60617 Symbols

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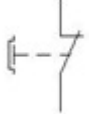




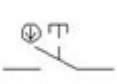





Push Buttons

Topics in this section

- [Push Buttons](#)
- [Illuminated Push Buttons](#)

Push Buttons

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Push Button Normally Open Momentary
HPB11	VPB11	
		Push Button Normally Closed Momentary
HPB12	VPB12	
		Push Button Normally Open Latching
HPB11L	VPB11L	
		Push Button Normally Closed Latching
HPB12L	VPB12L	
		Mushroom Head Normally Open Momentary
HPB11M	VPB11M	
		Mushroom Head Normally Closed Momentary
HPB12M	VPB12M	
		Mushroom Head Normally Open Latching
HPB11ML	VPB11ML	
		Mushroom Head Normally Closed Latching
HPB12ML	VPB12ML	
		Mushroom Head Normally Open Twist Latch
HPB11MTL	VPB11MTL	
		Mushroom Head Normally Closed Twist Latch
HPB12MTL	VPB12MTL	

		Mushroom Head Normally Open Latching, Pull to Disengage
HPB11S80	VPB11S80	
		Mushroom Head Normally Closed Latching, Pull to Disengage
HPB12S80	VPB12S80	
		Mushroom Head Normally Open Latching, Key Operated
HPB11S82	VPB11S82	
		Mushroom Head Normally Closed Latching, Key Operated
HPB12S82	VPB12S82	
		Normally Open Push Button Recessed
HPB11RE	VPB11RE	
		Normally Closed Push Button Recessed
HPB12RE	VPB12RE	
		Normally Open Push Button Recessed Latched
HPB11REL	VPB11REL	
		Normally Closed Push Button Recessed Latched
HPB12REL	VPB12REL	
		Normally Open Push Button Positive Make
HPB11PM	VPB11PM	
		Normally Closed Push Button Positive Break
HPB12PB	VPB12PB	
		2nd+ Normally Open Contact
HPB21	VPB21	



HPB22

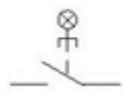


VPB22

2nd+ Normally Closed Contact

Illuminated Push Buttons

Horizontal Symbol Vertical Symbol Description

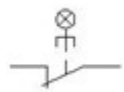


HPB11S75

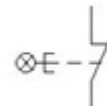


VPB11S75

Illuminated Push Button Normally Open



HPB12S75



VPB12S75

Illuminated Push Button Normally Closed



HPB11S76



VPB11S76

Non-Auto Return Push Button Normally Open



HPB12S76



VPB12S76

Non-Auto return Push Button Normally Closed



HPB2R



VPB2R

2nd+ Red Light



HPB2G



VPB2G

2nd+ Green Light



HPB2A



VPB2A

2nd+ Amber Light



HPB2Y



VPB2Y

2nd+ Yellow Light



HPB2B



VPB2B

2nd+ Blue Light



HPB2W



VPB2W

2nd+ White Light



HPB2C



VPB2C

2nd+ Clear Light








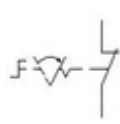

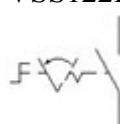
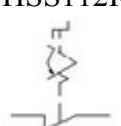
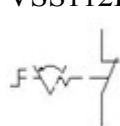


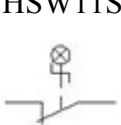
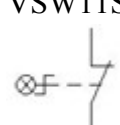
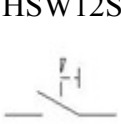
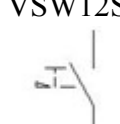
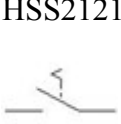

Selector Switches




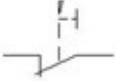
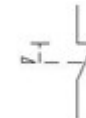
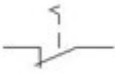
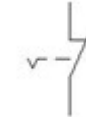




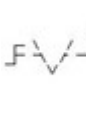

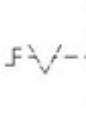




Topics in this section

- [Selector Switches](#)
- [3 Position Selector Switches](#)
- [4 Position Selector Switches](#)




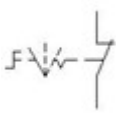



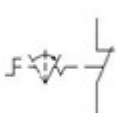



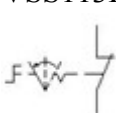
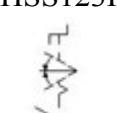
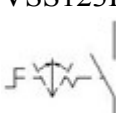

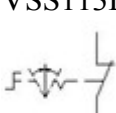


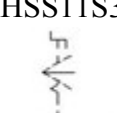
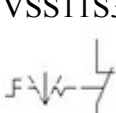
Selector Switches








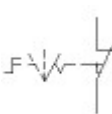



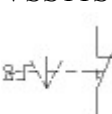










Horizontal Symbol Vertical Symbol Description

		2 Position Maintain, Normally Open
HSS112	VSS112	
		2 Position Maintain, Normally Closed
HSS122	VSS122	
		2 Position Normally Open Return From Left
HSS112L	VSS112L	
		2 Position Normally Closed Return From Left
HSS122L	VSS122L	
		2 Position Normally Open Return From Right
HSS112R	VSS112R	
		2 Position Normally Closed Return From Right
HSS122R	VSS122R	
		2 Position Normally Open with Lamp
HSW11S77	VSW11S77	
		2 Position Normally Closed with Lamp
HSW12S77	VSW12S77	
		Normally Open Contact with Manual Unlatching
HSS2121F	VSS2121F	
		Normally Open Contact with Maintained Position
HSS2122F	VSS2122F	

		Normally Open Anticipated Contact
HSS217F	VSS217F	
		Normally Open Delayed Contact
HSS218F	VSS218F	
		Normally Closed Contact with Manual Unlatching
HSS2221F	VSS2221F	
		Normally Closed Contact with Maintained Position
HSS2222F	VSS2222F	
		Normally Closed Anticipated Contact
HSS227F	VSS227F	
		Normally Closed Delayed Contact
HSS228F	VSS228F	
		Non-Latched, Normally Open
HSS11NL	VSS11NL	
		Non-Latched, Normally Closed
HSS12NL	VSS12NL	
		2nd+ Normally Open Contact
HSS21	VSS21	
		2nd+ Normally Closed Contact
HSS22	VSS22	

3 Position Selector Switches

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		3 Position Maintain, Normally Open
HSS113	VSS113	
		3 Position Maintain, Normally Closed
HSS123	VSS123	
		3 Position Normally Open Return From Left
HSS113L	VSS113L	
		3 Position Normally Closed Return From Left
HSS123L	VSS123L	
		3 Position Normally Open Return From Right
HSS113R	VSS113R	
		3 Position Normally Closed Return From Right
HSS123R	VSS123R	
		3 Position Normally Open Return From Both
HSS113B	VSS113B	
		3 Position Normally Closed Return From Both
HSS123B	VSS123B	
		3 Position Normally Open Neutral 0
HSS11S31	VSS11S31	
		3 Position Normally Closed Neutral 0
HSS12S31	VSS12S31	

		3 Position Normally Open Neutral 1
HSS11S32	VSS11S32	
		3 Position Normally Closed Neutral 1
HSS12S32	VSS12S32	
		3 Position Normally Open Neutral 2
HSS11S33	VSS11S33	
		3 Position Normally Closed Neutral 2
HSS12S33	VSS12S33	
		3 Position Normally Open Key Operated Neutral 0
HSS11S40	VSS11S40	
		3 Position Normally Closed Key Operated Neutral 0
HSS12S40	VSS12S40	
		3 Position Normally Open Key Operated Neutral 1
HSS11S41	VSS11S41	
		3 Position Normally Closed Key Operated Neutral 1
HSS12S41	VSS12S41	
		3 Position Normally Open Key Operated Neutral 2
HSS11S42	VSS11S42	
		3 Position Normally Closed Key Operated Neutral 2
HSS12S42	VSS12S42	
		3 Stable Position Normally Open Key Operated Neutral 0
HSS11S43	VSS11S43	



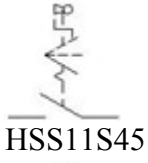
3 Stable Position Normally Closed Key Operated Neutral 0



3 Stable Position Normally Open Key Operated Neutral 1



3 Stable Position Normally Closed Key Operated Neutral 1











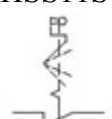


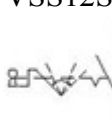

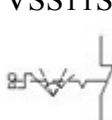
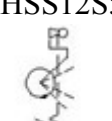


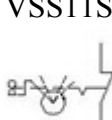


3 Stable Position Normally Open Key Operated Neutral 2



3 Stable Position Normally Closed Key Operated Neutral 2

4 Position Selector Switches









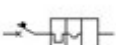







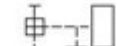

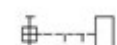

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		4 Position Maintain, Normally Open
HSS114	VSS114	
		4 Position Maintain, Normally Closed
HSS124	VSS124	
		4 Position Key Selector Normally Open
HSS11S46	VSS11S46	
		4 Position Key Selector Normally Closed
HSS12S46	VSS12S46	
		4 Stable Positions Key Selector Normally Open
HSS11S49	VSS11S49	
		4 Stable Positions Key Selector Normally Closed
HSS12S49	VSS12S49	
		4 Stable Positions Key Selector Normally Open- Rotating in 2 Ways
HSS11S50	VSS11S50	
		4 Stable Positions Key Selector Normally Closed- Rotating in 2 Ways
HSS12S50	VSS12S50	
		4 Stable Positions Key Selector Normally Open- Rotating CW
HSS11S51	VSS11S51	
		4 Stable Positions Key Selector Normally Closed- Rotating CW
HSS12S51	VSS12S51	

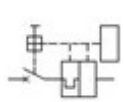
Breakers, Disconnects

Topics in this section

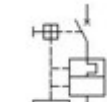
- [1 Pole Circuit Breakers](#)
- [2nd+ Pole Circuit Breakers](#)
- [Power Switches](#)
- [Fusible Disconnects](#)
- [Disconnect 1 Pole](#)

1 Pole Circuit Breakers

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Circuit Breaker 1 Pole
HCB1	VCB1	
		Thermal Circuit Breaker
HCB11TH	VCB11TH	
		Current Limit/Thermal
HCB11THI	VCB11THI	
		Magneto/Thermal
HCB11Q9	VCB11Q9	
		Magneto/Thermal with Differential
HCB11Q13	VCB11Q13	
		Differential
HCB11Q17	VCB11Q17	
		With Current Protection
HCB11Q29	VCB11Q29	
		With Current Protection and Lack of Voltage Protection
HCB11Q33	VCB11Q33	
		With Max. Current and Min. Voltage Protection
HCB11Q37	VCB11Q37	
		With Max. Thermal/Current and Min. Voltage Protection
HCB11Q41	VCB11Q41	

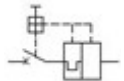


HCB11Q45

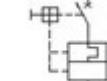


VCB11Q45

With Max. Thermal and Min. Voltage Protection

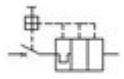


HCB11Q21



VCB11Q21

With Max. Thermal and Current Protection

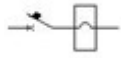


HCB11Q25



VCB11Q25

With Max. Thermal Protection and Differential



HCB11Q146



VCB11Q146

1 Pole Auto Switch with Magneto



HCB11Q134



VCB11Q134

1 Pole Auto Magneto-Thermal Switch/Disconnect



HCB11Q138









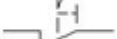
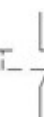
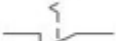
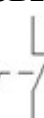






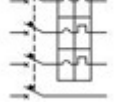

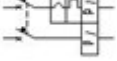



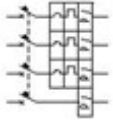
VCB11Q138

1 Pole Auto Disconnect Switch with Electronic Relay

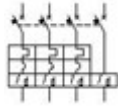
2nd+ Pole Circuit Breakers

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Circuit Breaker 2nd+ Pole
HCB2	VCB2	
		Thermal 2nd+ Pole
HCB21TH	VCB21TH	
		Current Limit/Thermal 2nd+ Pole
HCB21THI	VCB21THI	
		Disconnect 2nd+ Pole
HDS21	VDS21	
		Disconnect Normally Open Auxiliary Contact
HDS21AUX	VDS21AUX	
		Disconnect Normally Closed Auxiliary Contact
HDS22AUX	VDS22AUX	
		Auto Return
HCB2120F	VCB2120F	
		With Mechanical Block and Manual Unlatching
HCB2121F	VCB2121F	
		With Maintained Position
HCB2122F	VCB2122F	
		Anticipated Contact
HCB217F	VCB217F	

		Delayed Contact
HC218F	VCB218F	
		Circuit Breaker Normally Open Auxiliary Contact
HC21	VCB21	
		Circuit Breaker Normally Closed Auxiliary Contact
HC22	VCB22	
		Auto Return
HC2220F	VCB2220F	
		With Mechanical Block and Manual Unlatching
HC2221F	VCB2221F	
		With Maintained Position
HC2222F	VCB2222F	
		Anticipated Contact
HC227F	VCB227F	
		Delayed Contact
HC228F	VCB228F	
		2 P Magneto-Thermal Switch, 1P Protected
HC1Q142	VCB1Q142	
		4 P Magneto-Thermal Switch, 3P Protected
HC1Q143	VCB1Q143	
		2 P Magneto-Thermal Switch with Differential, 1P Protected
HC1Q144	VCB1Q144	

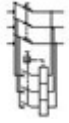


HCB1Q145



VCB1Q145

4 P Magneto-Thermal Switch with Differential, 3P Protected



HDS1Q93

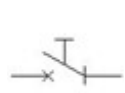


VDS1Q93

3 P 2 Way Disconnect Switch with Fuses

Power Switches

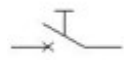
Horizontal Symbol Vertical Symbol Description



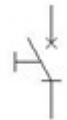
HCB11Q53



HCB11Q57



HCB11Q50



VCB11Q53



VCB11Q57



VCB11Q50

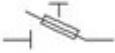













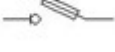

1P with Semiconductors

1P with Semiconductors - unidirectional

2P Power Switch

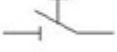





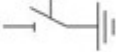



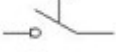


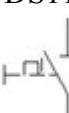

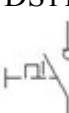
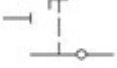

Fusible Disconnects

Horizontal Symbol Vertical Symbol Description

		Fused switch
HDS11F	VDS11F	
		2nd+ Pole Fused Switch
HDS21F	VDS21F	
		Auxiliary Contact, Normally Open
HDS21AUX	VDS21AUX	
		Auxiliary Contact, Normally Closed
HDS22AUX	VDS22AUX	
		1 Pole on load
HDS10L	VDS10L	
		2nd+ Pole on load
HDS20L	VDS20L	
		1 Phase Disconnect with Fuse
HDS11Q81	VDS11Q81	
		1 Phase maneuver Switch/Disconnect with Fuse
HDS11Q85	VDS11Q85	

Disconnect 1 Pole

Horizontal Symbol Vertical Symbol Description

		Disconnect 1 Pole
HDS11Q65	VDS11Q65	
		Disconnect 1 Pole Non-Fused
HDS11	VDS11	
		Maneuver Switch with Fuse
HDS11Q119	VDS11Q119	
		PE Earthing Switch
HDS11Q123	VDS11Q123	
		Power Auto Switch/Disconnect
HDS11Q5	VDS11Q5	
		Maneuver Switch/Disconnect
HDS11Q69	VDS11Q69	
		Disconnect with Lock Device
HDS11Q73	VDS11Q73	
		Switch/Disconnect with Lock Device
HDS11Q77	VDS11Q77	
		Two Way Disconnect with 3 Positions
HDS11Q89	VDS11Q89	

Fuses, Transformers, Reactors

Topics in this section

- [Reactors](#)
- [Fuses](#)
- [Fuse Switches](#)
- [Transformers](#)
- [Current Transformers](#)
- [3 Phase Transformers](#)

Reactors

Horizontal Symbol Vertical Symbol Description



HRT1



VRT1

Reactors - General



HRT1IC



VRT1IC

Reactors - Iron cored



HRT1L3



VRT1L3

Inductor With Magnetic Core Air Gap



HRT1L4















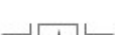

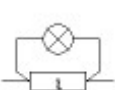

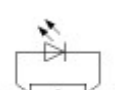



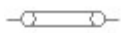
VRT1L4

Inductor With Magnetic Core Continuously Variable

Fuses

Horizontal Symbol Vertical Symbol Description

		Fuse
HFU1	VFU1	
		Fuse Auxiliary Contact, Normally Open
HFU21	VFU21	
		Fuse Auxiliary Contact, Normally Closed
HFU22	VFU22	
		Stiker
HFU1ST	VFU1ST	
		With alarm contact
HFU1AC	VFU1AC	
		With separate alarm contact
HFU1SAC	VFU1SAC	
		1 Pole - Live Side
HFU1LS	VFU1LS	
		1 Phase Fuse
HFU1F11	VFU1F11	
		Fuse with Incandescent Light Indication
HFU1F15	VFU1F15	
		Fuse with LED Indication
HFU1F16	VFU1F16	



HFU1NLC



VFU1NLC

Neutral Link - Closed



HFU1NLO



VFU1NLO

Neutral Link - Open

Fuse Switches

Horizontal Symbol Vertical Symbol Description



HFU1FS



VFU1FS

1 Pole



HFU2FS

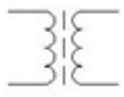


VFU2FS

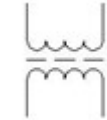
1 Pole Child

Transformers

Horizontal Symbol Vertical Symbol Description

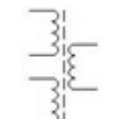


HXF1



VXF1

Transformer Single

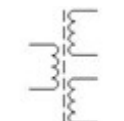


HXF1D



VXF1D

Transformer Dual



HXF1DR



VXF1DR

Transformer Dual (flipped)

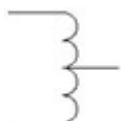


HXF1PT



VXF1PT

PT Potential Transformer

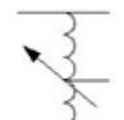


HXF1P1AUTO



VXF1P1AUTO

Single phase auto

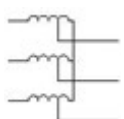


HXF1T18

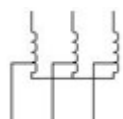


VXF1T18

1 Phase Autotransformer



HXF1T19

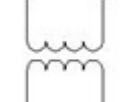


VXF1T19

3 Phase Autotransformer Star Connected

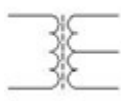


HXF1T2

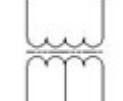


VXF1T2

Power Transformer 1 with 2 Windings

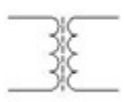


HXF1T4

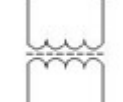


VXF1T4

Power Transformer 2 with 2 Windings



HXF1T3

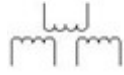


VXF1T3

Power Transformer with 2 Windings and Screen



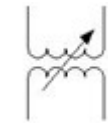
HXF1T6



VXF1T6



HXF1T5



VXF1T5



HXF1T34



VXF1T34

Power Transformer with 3 Windings

Adjustable Power Transformer with 2 Windings

Voltage Transformer

Current Transformers

Horizontal Symbol Vertical Symbol Description



HXF1CT



VXF1CT

CT Current Transformer



HXF1CTR



VXF1CTR

CT (Flipped)



HXF1T1



VXF1T1

Current Transformer 2



HXF1T31



VXF1T31

With 2 Secondaries - Common Magnetic Circuit



HXF1T32



VXF1T32

With Tapped Secondary Winding



HXF1T33

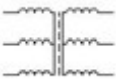
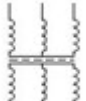

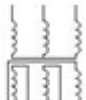



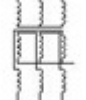



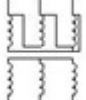



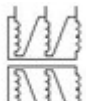

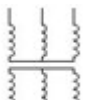





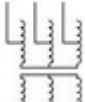





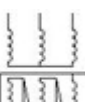



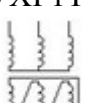



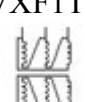





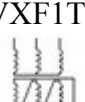
VXF1T33

With Conductor Indication

3 Phase Transformers

Horizontal Symbol Vertical Symbol Description

		3 Phase
HXF1P3	VXF1P3	
		3 Phase Star/Delta
HXF1P3SD	VXF1P3SD	
		3 Phase Star/Delta Primary with Sockets
HXF1T11	VXF1T11	
		3 Phase Star/Zigzag
HXF1T12	VXF1T12	
		3 Phase Delta/Delta
HXF1T13	VXF1T13	
		3 Phase Delta/Star
HXF1T14	VXF1T14	
		3 Phase Star/Star/Delta with 3 Windings
HXF1T15	VXF1T15	
		3 Phase Delta/Delta
HXF1T20	VXF1T20	
		3 Phase Star/Star
HXF1T7	VXF1T7	
		3 Phase Star/Star Secondary with Neutral
HXF1T8	VXF1T8	

		3 Phase Star/Star Primary with Plugs
HXF1T9	VXF1T9	
		3 Phase Dy5
HXF1T21	VXF1T21	
		3 Phase Dd6
HXF1T22	VXF1T22	
		3 Phase Yd5
HXF1T23	VXF1T23	
		3 Phase Yy6
HXF1T24	VXF1T24	
		3 Phase Yd11
HXF1T25	VXF1T25	
		3 Phase Dy11
HXF1T26	VXF1T26	
		3 Phase Dz0
HXF1T27	VXF1T27	
		3 Phase Yz5
HXF1T28	VXF1T28	
		3 Phase Dz6
HXF1T29	VXF1T29	
		3 Phase Yz11
HXF1T30	VXF1T30	











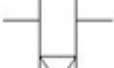
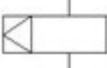
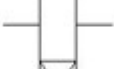
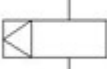



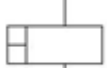


Relays, Contacts

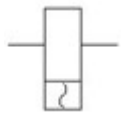
Topics in this section

- [Relays and Contacts](#)
- [Relays with Suppression](#)
- [Current Protection Relays](#)
- [Voltage Protection Relays](#)
- [Counter Relays](#)
- [Miscellaneous Relays](#)

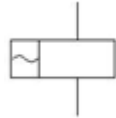
Relays and Contacts

Horizontal Symbol Vertical Symbol Description

		Relay Normally Open Contact
HCR21	VCR21	
		Relay Normally Closed Contact
HCR22	VCR22	
		Relay Form C
HCR23R	VCR23R	
		Relay Form C Flipped
HCR23	VCR23	
		Relay Coil
HCR1	VCR1	
		Latch Relay Coil
HLR1	VLR1	
		Latch relay (child coil)
HLR2	VLR2	
		Solid State
HCR1SSD	VCR1SSD	
		High Speed
HCR1HSP	VCR1HSP	
		AC Unaffected
HCR1ACU	VCR1ACU	

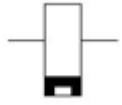


HCR1AC

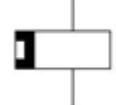


VCR1AC

AC



HCR1POL



VCR1POL

Polarized

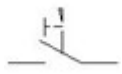


HCR1MSR



VCR1MSR

Measuring

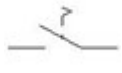


HCR2121F



VCR2121F

With Mechanical Block and Manual Unlatching

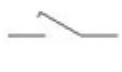


HCR2122F



VCR2122F

With Maintained Position

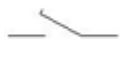


HCR217F



VCR217F

Anticipated Contact



HCR218F

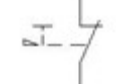


VCR218F

Delayed Contact

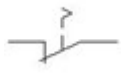


HCR2221F

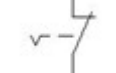


VCR2221F

With Mechanical Block and Manual Unlatching



HCR2222F



VCR2222F

With Maintained Position



HCR227F



VCR227F

Anticipated Contact

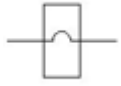


HCR228F

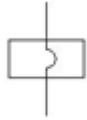


VCR228F

Delayed Contact



HCR1F34



VCR1F34

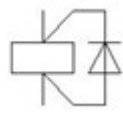
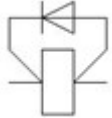
Magnetic Protection

Relays with Suppression

*Horizontal
Symbol*

*Vertical
Symbol*

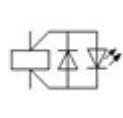
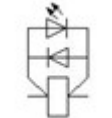
Description



Relay with Integrated Block Diode

HCR1K33

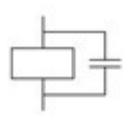
VCR1K33



Relay with Integrated Block Diode and Integrated LED

HCR1K35

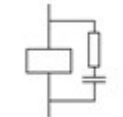
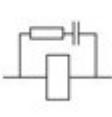
VCR1K35



Relay with Capacitor

HCR1K37

VCR1K37



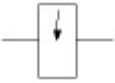
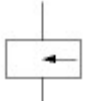
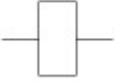

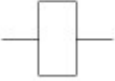













Relay with RC Circuit

HCR1K39

VCR1K39

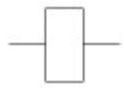
Current Protection Relays

Horizontal Symbol Vertical Symbol Description

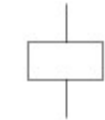
		Come Back Current Protection
HCR1F28	VCR1F28	
		Differential Current Protection
HCR1F29	VCR1F29	
		Differential Current Protection - Relative Value
HCR1F30	VCR1F30	
		Maximum Current Protection
HCR1F25	VCR1F25	
		Minimum Current Protection
HCR1F26	VCR1F26	
		Minimum and Maximum Current Protection
HCR1F27	VCR1F27	
		In Neutral
HCR1F32	VCR1F32	
		In Neutral between 2 Multi-Phase Systems
HCR1F33	VCR1F33	
		Ground Failure Current Protection
HCR1F37	VCR1F37	

Voltage Protection Relays

Horizontal Symbol Vertical Symbol Description

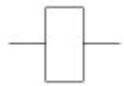


HCR1F35

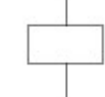


VCR1F35

Minimum Voltage Protection

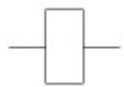


HCR1F36

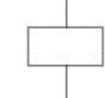


VCR1F36

Maximum Voltage Protection

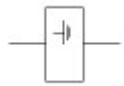


HCR1F38

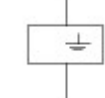


VCR1F38

Residual Voltage Protection

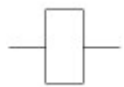


HCR1F31

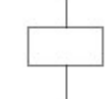


VCR1F31

Ground Failure Voltage Protection



HCR1F39

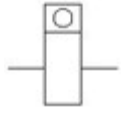


VCR1F39

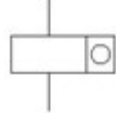
Lack of Voltage Protection

Counter Relays

Horizontal Symbol Vertical Symbol Description

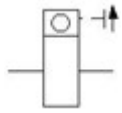


HCR1CNN

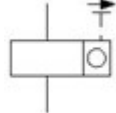


VCR1CNN

Counter No Reset

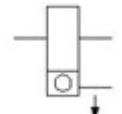


HCR1CNM

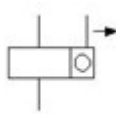


VCR1CNM

Counter Manual Reset



HCR1CNE


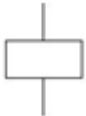

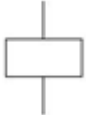

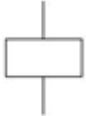

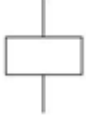

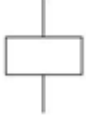
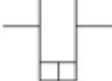
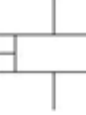

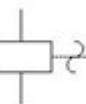


VCR1CNE

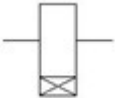
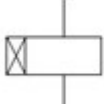
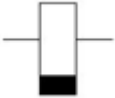
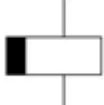
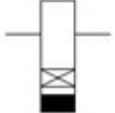
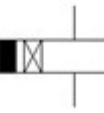
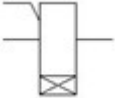


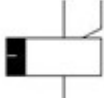
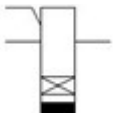
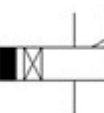
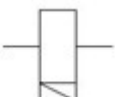
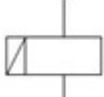






Counter Electronic Reset

Miscellaneous Relays

Horizontal Symbol Vertical Symbol Description

		Frequency Relay
HCR1F40	VCR1F40	
		Minimum Impedance Relay
HCR1F41	VCR1F41	
		Relay Sensing Lack of Phase in Three Phase System
HCR1F42	VCR1F42	
		Minimum Active Power Relay
HCR1F43	VCR1F43	
		Insulating Relay
HCR1F44	VCR1F44	
		Quick Relay Coil
HCR1K1	VCR1K1	
		Mechanical Resonance Relay
HCR1K11	VCR1K11	

Time Delay Relays

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		ON Delay Coil
HTD1N	VTD1N	
		OFF Delay Coil
HTD1F	VTD1F	
		ON/OFF Delay
HCR1OOD	VCR1OOD	
		3 Clamp Delay Relay - Energized
HTD1K25	VTD1K25	
		3 Clamp Delay Relay - De-energized
HTD1K27	VTD1K27	
		3 Clamp Delay Relay - Energized/De-energized
HTD1K29	VTD1K29	
		Latency Relay
HTD1K5	VTD1K5	
		ON Delay Normally Open(Delay Close)
HTD21N	VTD21N	
		ON Delay Normally Closed(Delay Open)
HTD22N	VTD22N	
		OFF Delay Normally Open (Instant Close/Delay Open)
HTD21F	VTD21F	



HTD22F



HTD21I



HTD22I



HTD21IF



HTD22IF



HTD21DOO



HTD22DOO



VTD22F



VTD21I



VTD22I



VTD21IF



VTD22IF



VTD21DOO



VTD22DOO

OFF Delay Normally Closed (Instant Open/Delay Close)

Normally Open Contact (Instant)

Normally Closed Contact (Instant)

Normally Open Contact (Instant-for Delay Close)

Normally Closed Contact (Instant-for Delay Close)

Normally Open Delay ON/OFF

Normally Closed Delay ON/OFF








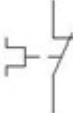
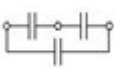
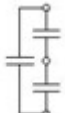
Motor Control

Topics in this section

- [Motor Control](#)
- [1 Phase Motors](#)
- [3 Phase Motors](#)
- [DC Motors](#)
- [Generators](#)
- [Motor Starters](#)

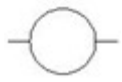
Motor Control

Horizontal Symbol Vertical Symbol Description

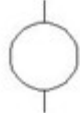
		Overload, 1 Pole
HOL1	VOL1	
		2nd+ Overload Pole
HOL2	VOL2	
		2nd+ Overload, Normally Open Contact
HOL21	VOL21	
		2nd+ Overload, Normally Closed Contact
HOL22	VOL22	
		3 Phase KVAR Capacitor
HCA113	VCA113	

1 Phase Motors

Horizontal Symbol Vertical Symbol Description

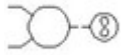


HMO12



VMO12

1 Phase Motor

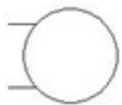


HMO1M3M



VMO1M3M

1 Phase Motor with Fan



HMO1M9

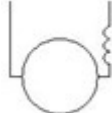


VMO1M9

1 Phase AC Motor



HMO1M10



VMO1M10

1 Phase AC Motor in Series Connection







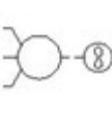
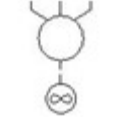
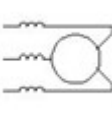
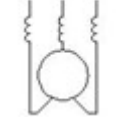

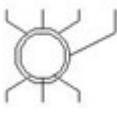
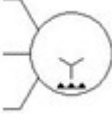
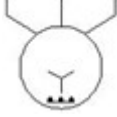
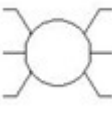
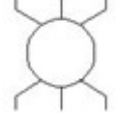

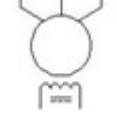
HMO1M16



VMO1M16




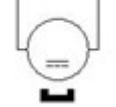

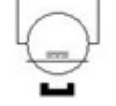








1 Phase Synchronous AC Motor

3 Phase Motors

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		3 Phase Motor
HMO13	VMO13	
		3 Phase Motor (4 Connections)
HMO14	VMO14	
		3 Phase Motor with Fan
HMO1M2	VMO1M2	
		3 Phase Asynchro Motor with Series Excitation
HMO1M3	VMO1M3	
		3 Phase Asynchro Wound-Rotor Motor
HMO1M4	VMO1M4	
		3 Phase Asynchro Star Connected Stator Auto Starter on Rotor
HMO1M5	VMO1M5	
		3 Phase Asynchro Motor - 6 Pole
HMO1M11	VMO1M11	
		3 Phase Synchronous AC Motor
HMO1M17	VMO1M17	

DC Motors

Horizontal Symbol Vertical Symbol Description

		DC Motor
HMO1M6	VMO1M6	
		DC Motor with Permanent Magnets
HMO1M13	VMO1M13	
		DC Motor - Linear with Permanent Magnets
HMO1M14	VMO1M14	
		DC Motor - Stepping with Permanent Magnets
HMO1M15	VMO1M15	
		DC Motor - Series Excitation
HMO1M7	VMO1M7	
		DC Motor - Derived Excitation
HMO1M8	VMO1M8	
		DC Motor - Independent Excitation
HMO1M12	VMO1M12	

Generators

Horizontal Symbol Vertical Symbol Description

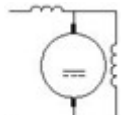


HPW1G9

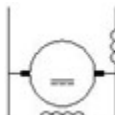


VPW1G9

DC Generator



HPW1G10



VPW1G10

DC Generator with Compound Excitation

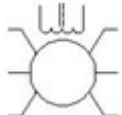


HPW1G6

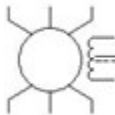


VPW1G6

3 Phase Synchro Generator with Permanent Magnets



HPW1G7



VPW1G7

3 Phase Synchro Generator 1



HPW1G8



VPW1G8

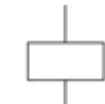
3 Phase Synchro Generator 2

Motor Starters

Horizontal Symbol Vertical Symbol Description



HMS1



VMS1

Motor Starter Coil



HMS21P



VMS21P

Motor Starter 1 Pole Normally Open (Power)



HMS22P



VMS22P

Motor Starter 1 Pole Normally Closed (Power)



HMS21



VMS21

2nd+ Motor Starter Normally Open



HMS22



VMS22

2nd+ Motor Starter Normally Closed

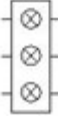





Pilot Lights

Topics in this section

- [Pilot Lights](#)
- [Standard Lights](#)
- [Transformer Lights](#)
- [Push to Test Lights](#)
- [LEDs](#)
- [Beacons - Flashing](#)
- [Beacons - Rotating](#)















Pilot Lights

Horizontal Symbol Vertical Symbol Description

		Blinking Device
HLT1H21	VLT1H21	
		Neon Lamp
HLT1H22	VLT1H22	
		Incandescent Lamp
HLT1H24	VLT1H24	

Standard Lights

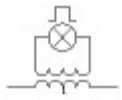
Horizontal Symbol Vertical Symbol Description

		Red Standard
HLT1R	VLT1R	
		Green Standard
HLT1G	VLT1G	
		Orange Standard
HLT1A	VLT1A	
		Yellow Standard
HLT1Y	VLT1Y	
		Blue Standard
HLT1B	VLT1B	
		White Standard
HLT1W	VLT1W	
		Clear Standard
HLT1C	VLT1C	

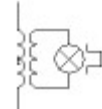
Note Lights receive text to indicate the color at the time of insertion.

Transformer Lights

Horizontal Symbol Vertical Symbol Description



HLT1H10



VLT1H10

Blinking Light - Bulb with Transformer

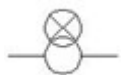


HLT1H23A



VLT1H23A

Indicator Lamp Energized by Built-in Transformer

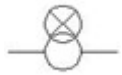


HLT1RT



VLT1RT

Red

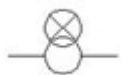


HLT1GT



VLT1GT

Green

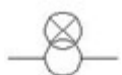


HLT1AT



VLT1AT

Orange



HLT1YT



VLT1YT

Yellow



HLT1BT



VLT1BT

Blue



HLT1WT



VLT1WT

White



HLT1CT



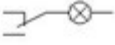

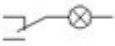

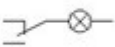

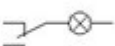

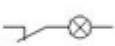



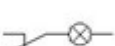
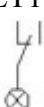
VLT1CT

Clear

Note Lights receive text to indicate the color at the time of insertion.

Push to Test Lights

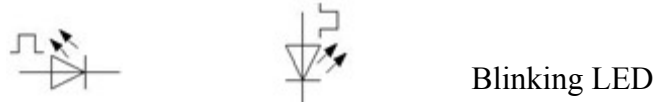
Horizontal Symbol Vertical Symbol Description

		Red Press To Test
HLT1RP	VLT1RP	
		Green Press To Test
HLT1GP	VLT1GP	
		Orange Press To Test
HLT1AP	VLT1AP	
		Yellow Press To Test
HLT1YP	VLT1YP	
		Blue Press To Test
HLT1BP	VLT1BP	
		White Press To Test
HLT1WP	VLT1WP	
		Clear Press To Test
HLT1CP	VLT1CP	

Note Lights receive text to indicate the color at the time of insertion.

LEDs

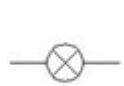
Horizontal Symbol Vertical Symbol Description



HLT1H13

VLT1H13

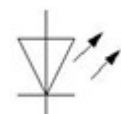
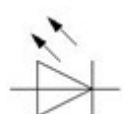
Blinking LED



HLT1H25

VLT1H25

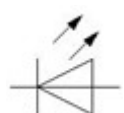
LED Indicator Lamp



HLT1RL

VLT1RL

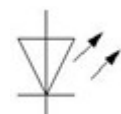
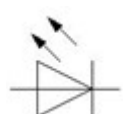
Red



HLT1RLR

VLT1RLR

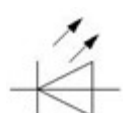
Red 180



HLT1GL

VLT1GL

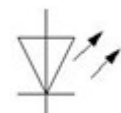
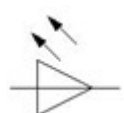
Green



HLT1GLR

VLT1GLR

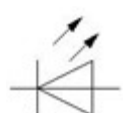
Green 180



HLT1AL

VLT1AL

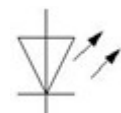
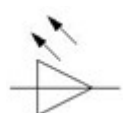
Orange



HLT1ALR

VLT1ALR

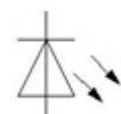
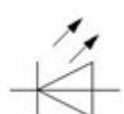
Orange 180



HLT1YL

VLT1YL

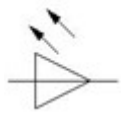
Yellow



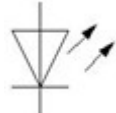
HLT1YLR

VLT1YLR

Yellow 180



HLT1BL



VLT1BL

Blue



HLT1BLR

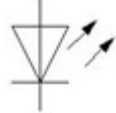


VLT1BLR

Blue 180



HLT1WL



VLT1WL

White

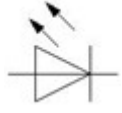


HLT1WLR

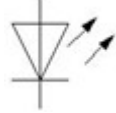


VLT1WLR

White 180



HLT1CL



VLT1CL

Clear



HLT1CLR





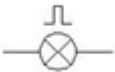

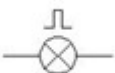



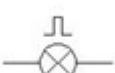

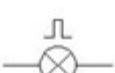



VLT1CLR

Clear 180

Note Lights receive text to indicate the color at the time of insertion.

Beacons - Flashing















Horizontal Symbol Vertical Symbol Description

		Red
HBE1RFL	VBE1RFL	
		Green
HBE1GFL	VBE1GFL	
		Orange
HBE1AFL	VBE1AFL	
		Yellow
HBE1YFL	VBE1YFL	
		Blue
HBE1BFL	VBE1BFL	
		White
HBE1WFL	VBE1WFL	
		Clear
HBE1CFL	VBE1CFL	

Note Lights receive text to indicate the color at the time of insertion.

Beacons - Rotating

















Horizontal Symbol Vertical Symbol Description

		Red
HBE1RRT	VBE1RRT	
		Green
HBE1GRT	VBE1GRT	
		Orange
HBE1ART	VBE1ART	
		Yellow
HBE1YRT	VBE1YRT	
		Blue
HBE1BRT	VBE1BRT	
		White
HBE1WRT	VBE1WRT	
		Clear
HBE1CRT	VBE1CRT	

Note Lights receive text to indicate the color at the time of insertion.

PLC I/O

Horizontal Symbol Vertical Symbol Description

		IN, 1st Point, 1 Wire
PLCIO11T	PLCIO11TV	
		IN, 1st Point, 2 Wires
PLCIO12T	PLCIO12TV	
		OUT, 1st Point, 1 Wire
PLCIO01T	PLCIO01TV	
		OUT, 1st Point, 2 Wires
PLCIO02T	PLCIO02TV	
		IN, 2nd+ Child, 1 Wire
PLCIO11	PLCIO11V	
		IN, 2nd+ Child, 2 Wires
PLCIO12	PLCIO12V	
		OUT, 2nd+ Child, 1 Wire
PLCIO01	PLCIO01V	
		OUT, 2nd+ Child, 2 Wires
PLCIO02	PLCIO02V	

Terminals, Connectors

Topics in this section

- [Terminals](#)
- [Power Distribution Blocks](#)
- [Connectors - No Wirenumber Changes](#)
- [Connectors - Wirenumber Changes](#)

Terminals

Horizontal Symbol Vertical Symbol Description

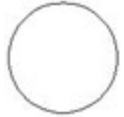


HT0_02



VT0_02

Round



HT0W02



VT0W02

Round with Wire Number



HT0002



VT0002

Round with Terminal Number



HT1002


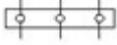






VT1002

Round with Wire Number Change

Power Distribution Blocks

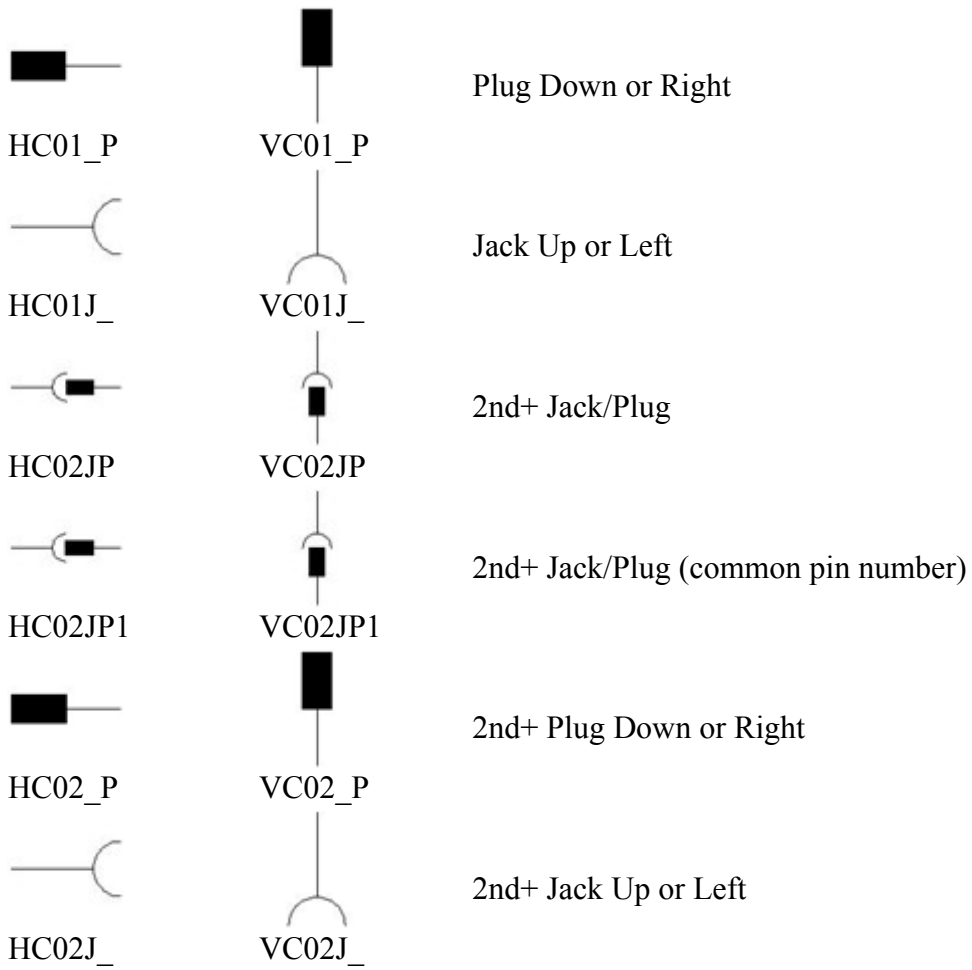
Horizontal Symbol Vertical Symbol Description

		3 Terminal, 10 Unit Spacing
HDB1308	VDB1308	
		3 Terminal, 15 Unit Spacing
HDB1312	VDB1312	
		3 Terminal, 20 Unit Spacing
HDB1316	VDB1316	

Connectors - No Wirenumber Changes





















Horizontal Symbol Vertical Symbol Description

		Plug/Jack
HC01PJ	VC01PJ	
		Plug/Jack (common pin number)
HC01PJ1	VC01PJ1	
		Plug Up or Left
HC01P_	VC01P_	
		Jack Down or Right
HC01_J	VC01_J	
		2nd+ Plug/Jack
HC02PJ	VC02PJ	
		2nd+ Plug/Jack (common pin number)
HC02PJ1	VC02PJ1	
		2nd+ Plug Up or Left
HC02P_	VC02P_	
		2nd+ Jack Down or Right
HC02_J	VC02_J	
		Jack/Plug
HC01JP	VC01JP	
		Jack/Plug (common pin number)
HC01JP1	VC01JP1	



Connectors - Wirenumber Changes

Horizontal Symbol Vertical Symbol Description

		Plug/Jack
HCN1PJ	VCN1PJ	
		Plug Up or Left
HC01P_	VC01P_	
		Jack Down or Right
HC01_J	VC01_J	
		2nd+ Plug/Jack
HCN2PJ	VCN2PJ	
		2nd+ Plug Up or Left
HC02P_	VC02P_	
		2nd+ Jack Down or Right
HC02_J	VC02_J	
		Jack/Plug
HCN1JP	VCN1JP	
		Plug Down or Right
HC01_P	VC01_P	
		Jack Up or Left
HC01J_	VC01J_	
		2nd+ Jack/Plug
HCN2JP	VCN2JP	



HC02_P



HC02J_



VC02_P



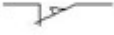


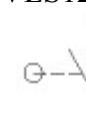

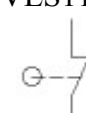




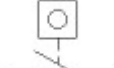

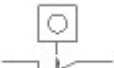







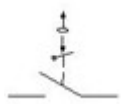
VC02J_

2nd+ Plug Down or Right

2nd+ Jack Up or Left

Limit Switches

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Limit Switch Normally Open
HLS11	VLS11	
		Limit Switch Normally Closed
HLS12	VLS12	
		Limit Switch, Roller Normally Open
HLS11C	VLS11C	
		Limit Switch, Roller Normally Closed
HLS12C	VLS12C	
		Limit Switch Normally Open - Cam Driven
HLS11S13	VLS11S13	
		Limit Switch Normally Closed - Cam Driven
HLS12S13	VLS12S13	
		Limit Switch Normally Open - Events Driven
HLS11S16	VLS11S16	
		Limit Switch Normally Closed - Events Driven
HLS12S16	VLS12S16	
		2 Position Switch Normally Open with Detents and Lamp
HLS11S78	VLS11S78	
		2 Position Switch Normally Closed with Detents and Lamp
HLS12S78	VLS12S78	



HLS11S84

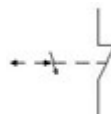


VLS11S84

Bi-directional Lever Actuated - Normally Open

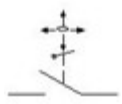


HLS12S84

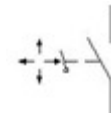


VLS12S84

Bi-directional Lever Actuated - Normally Closed



HLS11S85

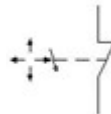


VLS11S85

Four-directional Lever Actuated - Normally Open

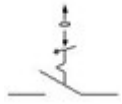


HLS12S85

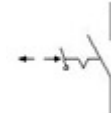


VLS12S85

Four-directional Lever Actuated - Normally Closed



HLS11S87

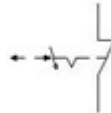


VLS11S87

Bi-directional Lever Actuated - Normally Open with Detent

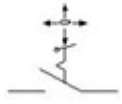


HLS12S87

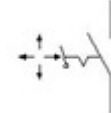


VLS12S87

Bi-directional Lever Actuated - Normally Closed with Detent

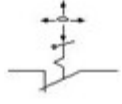


HLS11S88

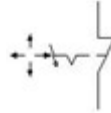


VLS11S88

Four-directional Lever Actuated - Normally Open with Detent



HLS12S88



VLS12S88

Four-directional Lever Actuated - Normally Closed with Detent



HLS21



VLS21

2nd+ Normally Open Contact



HLS22

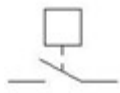


VLS22

2nd+ Normally Closed Contact

Pressure and Temperature Switches

Horizontal Symbol Vertical Symbol Description



HPS11



VPS11

Pressure Switch, Normally Open

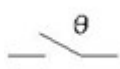


HPS12



VPS12

Pressure Switch, Normally Closed

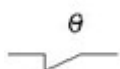


HTS11

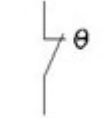


VTS11

Temperature Switch 1, Normally Open

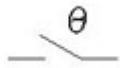


HTS12

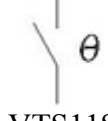


VTS12

Temperature Switch 1, Normally Closed

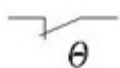


HTS11S74

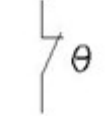


VTS11S74

Temperature Switch 3, Normally Open



HTS12S74



VTS12S74

Temperature Switch 3, Normally Closed



HSW21



VSW21

2nd+ Normally Open Contact



HSW22

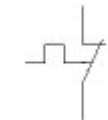


VSW22

2nd+ Normally Closed Contact



HTS12S59C



VTS12S59C

Thermal Switch Normally Closed, Self-operating












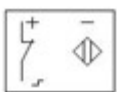

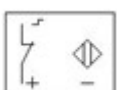
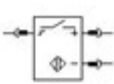
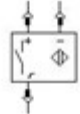

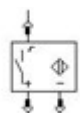
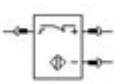
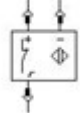
Proximity Switches

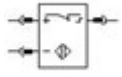
Topics in this section

- [Inductive Switches](#)
- [Capacitive Switches](#)
- [Magnetic Switches](#)
- [Photoelectric Emitter Switches](#)
- [Photoelectric Receiver Switches](#)
- [Photoelectric Emitter/Receiver Switches](#)
- [Ultrasonic Switches](#)
- [Touch Switches](#)

Inductive Switches

Horizontal Symbol Vertical Symbol Description

		Ferrous
HPX11	VPX11	
		Ferrous Proximity Switch, Normally Open
HPX11I	VPX11I	
		Ferrous Proximity Switch, Normally Closed
HPX12I	VPX12I	
		Normally Open 3 Wire
HPX11IN3	VPX11IN3	
		Normally Open 3 Wire 180
HPX11IN3R	VPX11IN3R	
		Normally Closed 3 Wire
HPX12IN3	VPX12IN3	
		Normally Closed 3 Wire 180
HPX12IN3R	VPX12IN3R	
		Normally Open 3 Wire with connector
HPX11IN3C	VPX11IN3C	
		Normally Open 3 Wire 180 with connector
HPX11IN3RC	VPX11IN3RC	
		Normally Closed 3 Wire with connector
HPX12IN3C	VPX12IN3C	



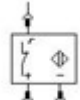
HPX12IN3RC



HSW21



HSW22



VPX12IN3RC



VSW21



VSW22

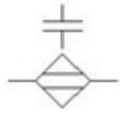
Normally Closed 3 Wire 180 with connector

2nd+ Normally Open Contact

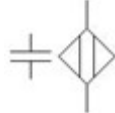
2nd+ Normally Closed Contact

Capacitive Switches

Horizontal Symbol Vertical Symbol Description



HPX1C



VPX1C

Capacitive



HPX11C

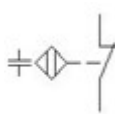


VPX11C

Capacitive Switch, Normally Open



HPX12C



VPX12C

Capacitive Switch, Normally Closed

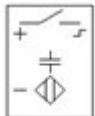


HPX11C3

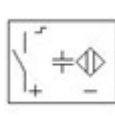


VPX11C3

Normally Open 3 Wire

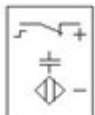


HPX11C3R



VPX11C3R

Normally Open 3 Wire 180



HPX12C3

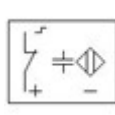


VPX12C3

Normally Closed 3 Wire

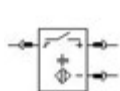


HPX12C3R

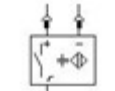


VPX12C3R

Normally Closed 3 Wire 180

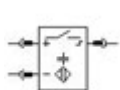


HPX11C3C

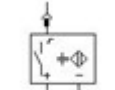


VPX11C3C

Normally Open 3 Wire with connector

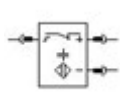


HPX11C3RC

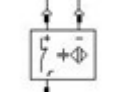


VPX11C3RC

Normally Open 3 Wire 180 with connector

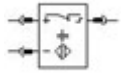


HPX12C3C



VPX12C3C

Normally Closed 3 Wire with connector



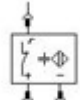
HPX12C3RC



HSW21



HSW22



VPX12C3RC



VSW21



VSW22

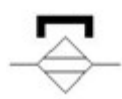
Normally Closed 3 Wire 180 with connector

2nd+ Normally Open Contact

2nd+ Normally Closed Contact

Magnetic Switches

Horizontal Symbol Vertical Symbol Description

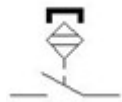


HPX1M



VPX1M

Magnetic

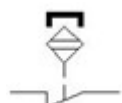


HPX11M



VPX11M

Magnetic Proximity Switch, Normally Open



HPX12M



VPX12M

Magnetic Proximity Switch, Normally Closed

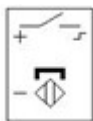


HPX11M3



VPX11M3

Normally Open 3 Wire



HPX11M3R



VPX11M3R

Normally Open 3 Wire 180



HPX12M3



VPX12M3

Normally Closed 3 Wire



HPX12M3R

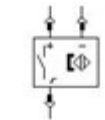


VPX12M3R

Normally Closed 3 Wire 180

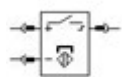


HPX11M3C

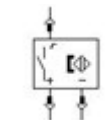


VPX11M3C

Normally Open 3 Wire with connector

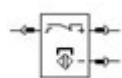


HPX11M3RC

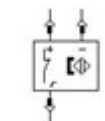


VPX11M3RC

Normally Open 3 Wire 180 with connector

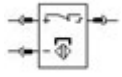


HPX12M3C

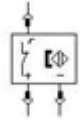


VPX12M3C

Normally Closed 3 Wire with connector



HPX12M3RC

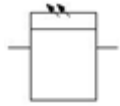


VPX12M3RC

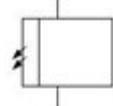
Normally Closed 3 Wire 180 with connector

Photoelectric Emitter Switches

Horizontal Symbol Vertical Symbol Description

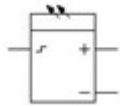


HPE1B14

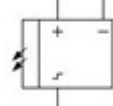


VPE1B14

Emitter - AC Driven

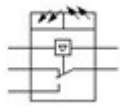


HPE1B15

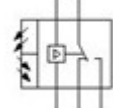


VPE1B15

Emitter - DC Driven

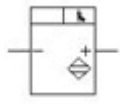


HPE13B16SC

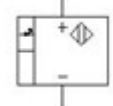


VPE13B16SC

Emitter - Receiver with Form C



HPE1B20

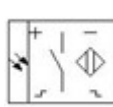


VPE1B20

Emitter - DC Driven

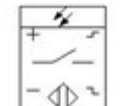


HPE11PE4

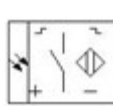


VPE11PE4

Normally Open 4 wire



HPE11PE4R

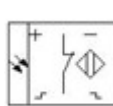


VPE11PE4R

Normally Open 4 wire 180

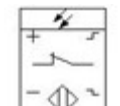


HPE12PE4

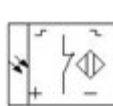


VPE12PE4

Normally Closed 4 wire

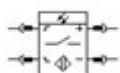


HPE12PE4R

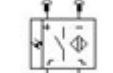


VPE12PE4R

Normally Closed 4 wire 180

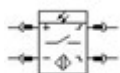


HPE11PE4C

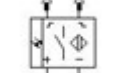


VPE11PE4C

Normally Open 4 wire with connector

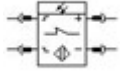


HPE11PE4RC

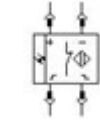


VPE11PE4RC

Normally Open 4 wire 180 with connector

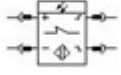


HPE12PE4C

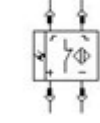


VPE12PE4C

Normally Closed 4 wire with connector



HPE12PE4RC

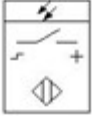
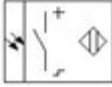
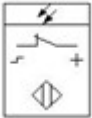
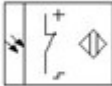

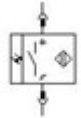
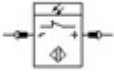
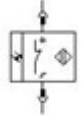
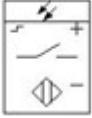
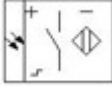


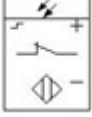
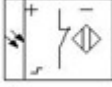
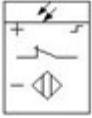
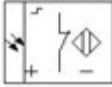
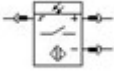
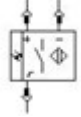
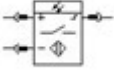
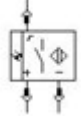


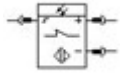
VPE12PE4RC

Normally Closed 4 wire 180 with connector

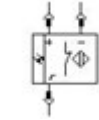
Photoelectric Receiver Switches

Horizontal Symbol Vertical Symbol Description

		Normally Open Receiver 2 wire
HPE11PE2	VPE11PE2	
		Normally Closed Receiver 2 wire
HPE12PE2	VPE12PE2	
		Normally Open Receiver 2 wire with connector
HPE11PE2C	VPE11PE2C	
		Normally Closed Receiver 2 wire with connector
HPE12PE2C	VPE12PE2C	
		Normally Open Receiver 3 wire
HPE11PE3	VPE11PE3	
		Normally Open Receiver 3 wire 180
HPE11PE3R	VPE11PE3R	
		Normally Closed Receiver 3 wire
HPE12PE3	VPE12PE3	
		Normally Closed Receiver 3 wire 180
HPE12PE3R	VPE12PE3R	
		Normally Open Receiver 3 wire with connector
HPE11PE3C	VPE11PE3C	
		Normally Open Receiver 3 wire 180 with connector
HPE11PE3RC	VPE11PE3RC	

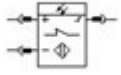


HPE12PE3C

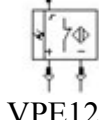


VPE12PE3C

Normally Closed Receiver 3 wire with connector

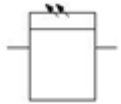


HPE12PE3RC

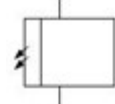


VPE12PE3RC

Normally Closed Receiver 3 wire 180 with connector

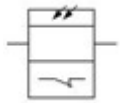


HPE11B14

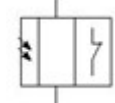


VPE11B14

Normally Open Receiver - AC Driven

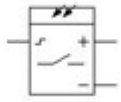


HPE12B14

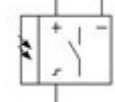


VPE12B14

Normally Closed Receiver - AC Driven

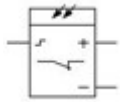


HPE11B15

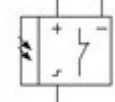


VPE11B15

Normally Open Receiver - DC Driven



HPE12B15

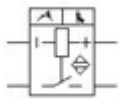


VPE12B15

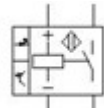
Normally Closed Receiver - DC Driven

Photoelectric Emitter/Receiver Switches

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Normally Open Emitter-Receiver - DC Driven
HPE11B16	VPE11B16	
		Normally Closed Emitter-Receiver - DC Driven
HPE12B16	VPE12B16	
		Normally Open Emitter-Receiver AC/DC Driven 2 PIN
HPE11B22	VPE11B22	
		Normally Closed Emitter-Receiver AC/DC Driven 2 PIN
HPE12B22	VPE12B22	
		Normally Open Emitter-Receiver AC Driven 3 PIN
HPE11B23	VPE11B23	
		Normally Closed Emitter-Receiver AC Driven 3 PIN
HPE12B23	VPE12B23	
		Normally Open Emitter-Receiver DC Driven 3 PIN
HPE11B24	VPE11B24	
		Normally Closed Emitter-Receiver DC Driven 3 PIN
HPE12B24	VPE12B24	
		Normally Open Emitter-Receiver AC Driven 4 PIN
HPE11B25	VPE11B25	
		Normally Closed Emitter-Receiver AC Driven 4 PIN
HPE12B25	VPE12B25	

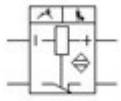


HPE11B26

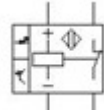


VPE11B26

Normally Open Emitter-Receiver DC Driven 4 PIN

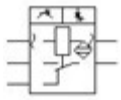


HPE12B26

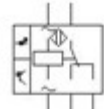


VPE12B26

Normally Closed Emitter-Receiver DC Driven 4 PIN

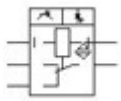


HPE13B25SC

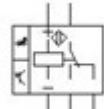


VPE13B25SC

FORM C Emitter-Receiver AC Driven 5 PIN



HPE13B26SC

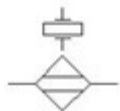


VPE13B26SC

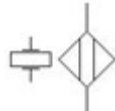
FORM C Emitter-Receiver DC Driven 5 PIN

Ultrasonic Switches

Horizontal Symbol Vertical Symbol Description



HPX1U



VPX1U

Ultrasonic

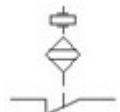


HPX11U

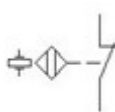


VPX11U

Ultrasonic Switch, Normally Open

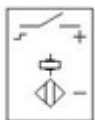


HPX12U



VPX12U

Ultrasonic Switch, Normally Closed



HPX11U3

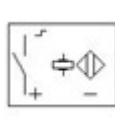


VPX11U3

Normally Open 3 Wire

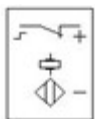


HPX11U3R

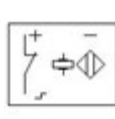


VPX11U3R

Normally Open 3 Wire 180

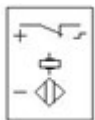


HPX12U3

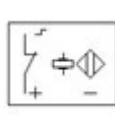


VPX12U3

Normally Closed 3 Wire

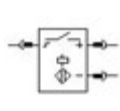


HPX12U3R

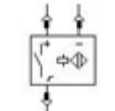


VPX12U3R

Normally Closed 3 Wire 180

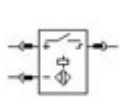


HPX11U3C

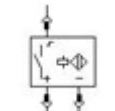


VPX11U3C

Normally Open 3 Wire with connector

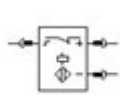


HPX11U3RC

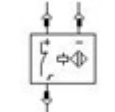


VPX11U3RC

Normally Open 3 Wire 180 with connector

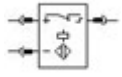


HPX12U3C

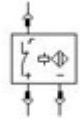


VPX12U3C

Normally Closed 3 Wire with connector



HPX12U3RC







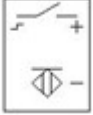
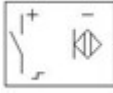


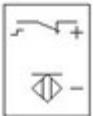
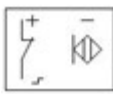

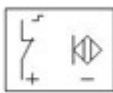
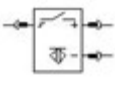
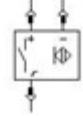
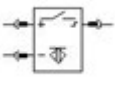
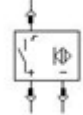
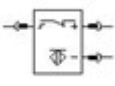
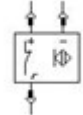


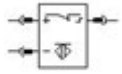
VPX12U3RC

Normally Closed 3 Wire 180 with connector

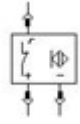
Touch Switches

Horizontal Symbol Vertical Symbol Description

		Touch
HPX1TS	VPX1TS	
		Touch Sense Proximity Switch, Normally Open
HPX11TS	VPX11TS	
		Touch Sense Proximity Switch, Normally Closed
HPX12TS	VPX12TS	
		Normally Open 3 Wire
HPX11TS3	VPX11TS3	
		Normally Open 3 Wire 180
HPX11TS3R	VPX11TS3R	
		Normally Closed 3 Wire
HPX12TS3	VPX12TS3	
		Normally Closed 3 Wire 180
HPX12TS3R	VPX12TS3R	
		Normally Open 3 Wire with Connector
HPX11TS3C	VPX11TS3C	
		Normally Open 3 Wire 180 with Connector
HPX11TS3RC	VPX11TS3RC	
		Normally Closed 3 Wire with Connector
HPX12TS3C	VPX12TS3C	



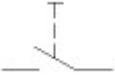







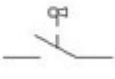
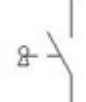
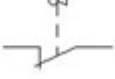
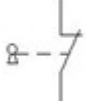


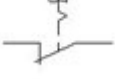

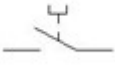

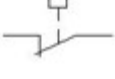

HPX12TS3RC

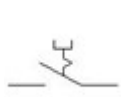


VPX12TS3RC

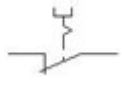
Normally Closed 3 Wire 180 with connector

Miscellaneous Switches

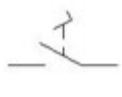
<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Generic Switch, Normally Open
HSW11	VSW11	
		Generic Switch, Normally Closed
HSW12	VSW12	
		Float/Level Switch, Normally Open
HFL11	VFL11	
		Float/Level Switch, Normally Closed
HFL12	VFL12	
		Key Switch, Normally Open
HPB11KS	VPB11KS	
		Key Switch, Normally Closed
HPB12KS	VPB12KS	
		Key Switch Latched, Normally Open
HPB11KSL	VPB11KSL	
		Key Switch Latched, Normally Closed
HPB12KSL	VPB12KSL	
		Pull Cord Switch, Normally Open
HPC11	VPC11	
		Pull Cord Switch, Normally Closed
HPC12	VPC12	



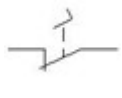
HPC11L



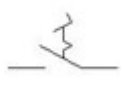
HPC12L



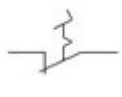
HFT11



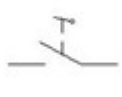
HFT12



HFT11L



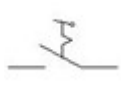
HFT12L



HPB11LS



HPB12LS



HPB11LSL



HPB12LSL



HFS11



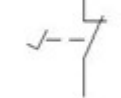
VPC11L



VPC12L



VFT11



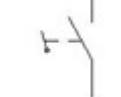
VFT12



VFT11L



VFT12L



VPB11LS



VPB12LS



VPB11LSL



VPB12LSL



VFS11

Pull Cord Switch Latched, Normally Open

Pull Cord Switch Latched, Normally Closed

Pedal Switch, Normally Open

Pedal Switch, Normally Closed

Pedal Switch Latched, Normally Open

Pedal Switch Latched, Normally Closed

Lever Switch, Normally Open

Lever Switch, Normally Closed

Lever Switch Latched, Normally Open

Lever Switch Latched, Normally Closed

Flow Switch Normally Open

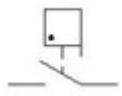


HFS12



VFS12

Flow Switch Normally Closed

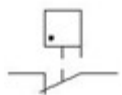


HFS11S20



VFS11S20

Flow Switch Normally Open - Gas

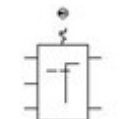


HFS12S20

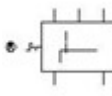


VFS12S20

Flow Switch Normally Closed - Gas

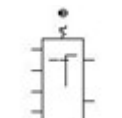


HSW1S90

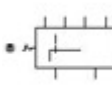


VSW1S90

3 Voltage Phase Switch

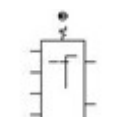


HSW1S91

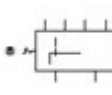


VSW1S91

3 Voltage Phase-to-Neutral Switch



HSW1S92

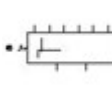


VSW1S92

3 Voltage Phase-to-Phase and Phase-to-Neutral Switch

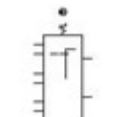


HSW1S93

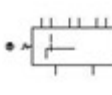


VSW1S93

3 Voltage, 2-Network Phase-to-Phase Switch

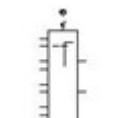


HSW1S94

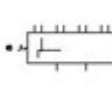


VSW1S94

Current Switch For 3 Measurement Points



HSW1S95



VSW1S95

Current Switch For 4 Measurement Points



HSW1SC21_F



VSW1SC21_F

Change-Over Contact with Mechanical Block and Manual Unlatching



HSW1SC7_F



VSW1SC7_F

Transfer Make Before Break Contact



HSW21



HSW22



VSW21

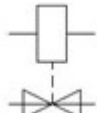
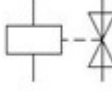

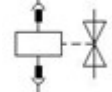
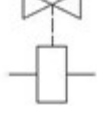
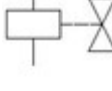



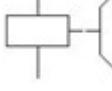








VSW22

2nd+ Normally Open Contact


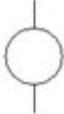















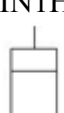

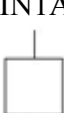
2nd+ Normally Closed Contact

Solenoids

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Standard Solenoid Valve
HSV1	VSV1	
		Standard Solenoid Valve with Connection
HSVC1	VSVC1	
		Open Solenoid Valve - Closing
HSV1Y1	VSV1Y1	
		Open Solenoid Valve - Closing According to Solenoid
HSV1Y1A	VSV1Y1A	
		Magnetic Brake
HSV1Y3	VSV1Y3	
		Electromagnetic Brake
HSV1Y4	VSV1Y4	
		Solenoid Valve Auxiliary Normally Open Contact
HSV21	VSV21	
		Solenoid Valve Auxiliary Normally Closed Contact
HSV22	VSV22	

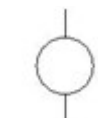
Instrumentation and Sensors

Horizontal Symbol Vertical Symbol Description

		Voltage Meter
HVM1	VVM1	
		Amperage Meter
HAM1	VAM1	
		Power Factor Meter
HIN1PFM	VIN1PFM	
		Phase Meter
HIN1PHM	VIN1PHM	
		Frequency Meter
HIN1FRM	VIN1FRM	
		Thermometer
HIN1THM	VIN1THM	
		Tachometer
HIN1TAC	VIN1TAC	
		Hour Meter
HIN1HRM	VIN1HRM	
		Ampere-Hour meter
HIN1AHM	VIN1AHM	
		Recording Wattmeter
HIN1P17	VIN1P17	



HIN1P21



VIN1P21

Varmeter



HIN1P11

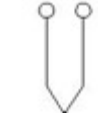


VIN1P11

Synchronoscope



HTC1L

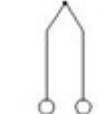


VTC1L

Thermocouple

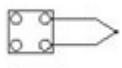


HTC1R

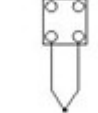


VTC1R

Thermocouple

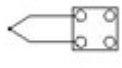


HTC1LTB

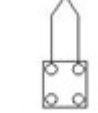


VTC1LTB

Thermocouple with Terminal Board



HTC1RTB

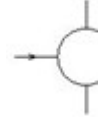


VTC1RTB

Thermocouple with Terminal Board

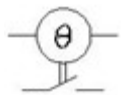


HIN1P19



VIN1P19

Active Power Indicator



HIN1P25



VIN1P25

Thermometer/Pyrometer



HIN1P29



VIN1P29

Clock



HIN1P33



VIN1P33

Normally Open Clock Closing Every Minute



HVM1P7



VVM1P7

Differential Voltmeter

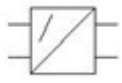


HPW1G4

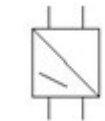


VPW1G4

Accumulator Battery

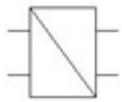


HIN1B10

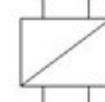


VIN1B10

Pressure/Current Converter



HIN1G1



VIN1G1

AC-DC Current Converter Single Phase



HIN1B11



VIN1B11

Tachometric Dynamo



HIN1B12



VIN1B12

Tachometric Dynamo - Impulse



HIN1B13



VIN1B13

Tachometric Dynamo - Optical Type

Qualifying Symbols

Topics in this section

- [Operating Devices](#)
- [Linear Direction of Force or Motion](#)
- [Rotative Direction of Force or Motion](#)
- [Propagation Flow or Signal](#)
- [Energy Flow](#)
- [Effect](#)
- [Radiation](#)
- [Fault](#)
- [Winding](#)
- [Mechanical Controls](#)
- [Mechanical Controls, Latching Device](#)
- [Mechanical Controls, Coupling](#)

Operating Devices

Symbol *Description*



Positive Operation Direction

Q070109



Manual Command General Sign

Q021301



Manual Command with Protected Access

Q021302



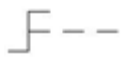
Push Button Command

Q021305



Emergency Command

Q021308



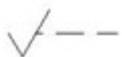
Rotary Command

Q021304



Command with Key

Q021313



Foot Actuated Command

Q021310



Lever Command

Q021311



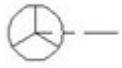
Crank Command

Q021214



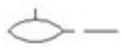
Fixed Manual Command

Q021312



Manual Command with Wheel

Q021309



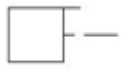
Actuated by the Level of a Fluid

Q021401



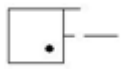
Actuated by the Number of Events

Q021402



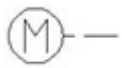
Actuated by a Flow of Fluid

Q021403



Actuated by a Gas Flow

Q021404



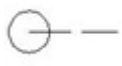
Motorized Command

Q021326



Timing Command

Q021327



Command with Roll

Q021315



Command with Cam

Q021316



Cam Profile

Q021317



Switch Position Function

Q070106



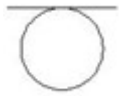
Switch Position (Flipped)

Q070106R



Disconnecter Isolator

Q070103



Switch Disconnecter Isolator

Q070104



Circuit Breaker Function

Q070102



Power Contactor Function

Q070101



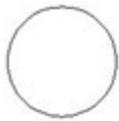
Auto Trip Function

Q070105



Auto Return (Spring Return)







Q070107



Non Auto Return (Stay)

Q070108

Linear Direction of Force or Motion

<i>Symbol</i>	<i>Description</i>
 Q020401U	One Way Force/Movement Up
 Q020401D	One Way Force/Movement Down
 Q020401L	One Way Force/Movement Left
 Q020401R	One Way Force/Movement Right
 Q020402	Two Way Force Or Movement
 Q101101	Transition

Rotative Direction of Force or Motion

Symbol Description



One Way Force Or Movement

Q020403



Two Way Force Or Movement

Q020404



Limited Two Way Force Or Movement

Q020405

Propagation Flow or Signal

Symbol Description



One Way Propagation

Q020501



Two Way Simultaneous Transmission Propagation

Q020502



Two Way Alternate Transmission Propagation

Q020503



Signal Transmission

Q020504

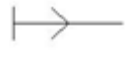


Signal Reception

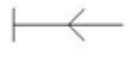
Q020505

Energy Flow

Symbol Description

 Outbound Energy Flux

Q020506

 Inbound Energy Flux


Q020507


 Inbound and Outbound Energy Flux

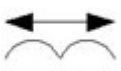
Q020508

Effect

Symbol *Description*

 Thermal Effect
Q020801

 Magnetic Effect
Q020802

 Magnetostriction Effect
Q020803

 Magnetic Field Effect
Q020804

Radiation

Symbol *Description*



Non Ionizing Coherent Electromagnetic Radiation

Q020901



Non Ionizing Coherent Radiation

Q020902



Ionizing Radiation

Q020903

Fault

Symbol *Description*



Indication Of Presumed Location Of Failure

Q021701



Failure For Lack Of Insulation

Q021702

Winding

Symbol *Description*



2 Phase Winding

Q060201



3 Phase Partial V Winding

Q060202



4 Phase Winding with Accessible Ground

Q060203



3 Phase T Winding

Q060204



3 Phase Delta Winding

Q060205



3 Phase Open Delta Winding

Q060206



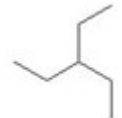
3 Phase Star Winding

Q060207



3 Phase Star Winding with Accessible Ground

Q060208



3 Phase Zigzag Winding

Q060209



Esaphase Winding with Double Delta

Q060210



Esaphase Polygonal Winding

Q060211



Esaphase Star Winding

Q060212



Esaphase Double Zigzag Winding with Accessible Ground

Q060213



DC Direct Current Indication

Q020201



DC Direct Current Indication

Q020203



Indication of Rectified Current with an Alternate Component

Q020212

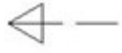


AC Alternate Current Indication

Q020204

Mechanical Controls

Symbol Description



Auto Return

Q021207



Auto Non Return Stop Latch

Q021208



Stop Latch in Neutral Position

Q021209



Stop Latch Engaged

Q021210



Interlock Between Two Devices

Q021211

Mechanical Controls, Latching Device

Symbol *Description*



Latch Device Engaged

Q021212



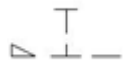
Latch Device in Neutral Position

Q021213



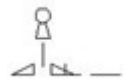
Two Ways Latch Device

Q1020603



Latch Device with Manual Unlatching

Q1020604



Two Ways Latch Device with Key

Q1029603

Mechanical Controls, Coupling

Symbol Description



Clutch Joint

Q021216



Disconnected Joint

Q021217



Engaged Joint

Q021218



Engaged Joint

Q021219



Gear Joint

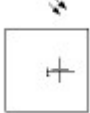

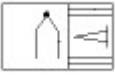
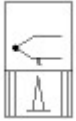
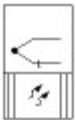
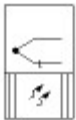
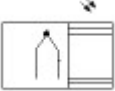
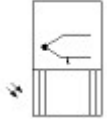

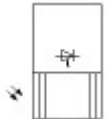
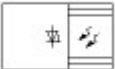
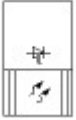
Q021223

Electronics




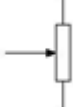
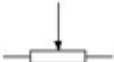
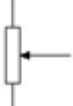




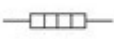

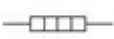

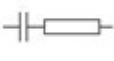



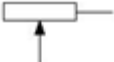

Topics in this section

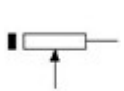
- [Resistive Components](#)
- [Capacitive Components](#)
- [Semiconductor Components](#)

Electronics

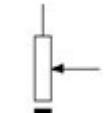
<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Photovoltaic Generator
HPW1_S00908	VPW1_S00908	
		Thermoelectric Generator w/Combustion Heat Source
HPW1_S00903	VPW1_S00903	
		Thermoelectric Generator w/Radio-isotope Heat Source
HPW1_S00905	VPW1_S00905	
		Thermoelectric Generator w/Non-ionizing Radiation Heat Source
HPW1_S00904	VPW1_S00904	
		Thermonic Diode Generator w/Non-ionizing Radiation Heat Source
HPW1_S00906	VPW1_S00906	
		Thermonic Diode Generator w/Radio-isotope Heat Source
HPW1_S00907	VPW1_S00907	

Resistive Components

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Fixed Resistor
HRE1B	VRE1B	
		Variable Resistor
HVR1B	VVR1B	
		Variable Resistor
HVR1BR	VVR1BR	
		Variable Resistor 2
HVR1R2	VVR1R2	
		Light dependent
HRE1LDR	VRE1LDR	
		Heater Element
HRE1HT	VRE1HT	
		2nd+ Element
HRE2HT	VRE2HT	
		RC Network
HRE1RCN	VRE1RCN	
		Varistor
HVR1R3	VVR1R3	
		Resistor with Mobile Contact
HVR1R4	VVR1R4	



HVR1R5

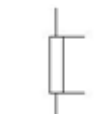


VVR1R5

Resistor with Mobile Contact and Disconnecting Position



HVR1R7

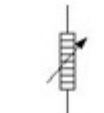


VVR1R7

Shunt



HVR1R8

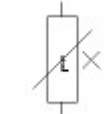


VVR1R8

Variable Resistor with Carbon Disks



HVR1S00689




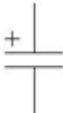

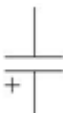


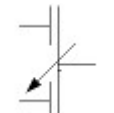









VVR1S00689

Magnetoresistor

















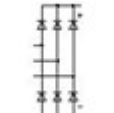



Capacitive Components

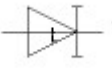

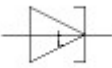
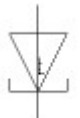
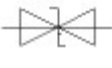
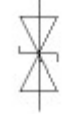
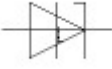
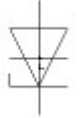
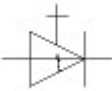
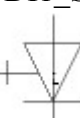
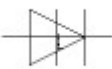
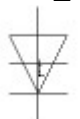

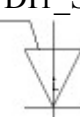
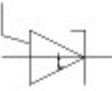
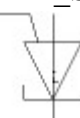
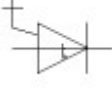
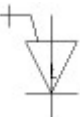


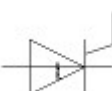
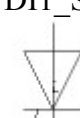
Horizontal Symbol Vertical Symbol Description

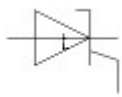
		Capacitor
HCA1	VCA1	
		Electrolytic
HCA1EL	VCA1EL	
		Electrolytic 180
HCA1ELR	VCA1ELR	
		Feedthrough Capacitor
HCA1C2	VCA1C2	
		Capacitor,Differential
HCA1_S00573	VCA1_S00573	
		Capacitor w/Pre-set Adjustment
HCA1_S00575	VHCA1_S0055	
		Capacitor,Adjustable
HCA1C2	VCA1C2	
		Capacitor, Split and Adjustable
HCA1_S00579	VCA1_S00579	

Semiconductor Components

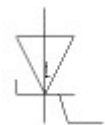
Horizontal Symbol Vertical Symbol Description

		Diode
HDI1	VDI1	
		Diode 180
HDI1R	VDI1R	
		Diode Photosensitive
HDI1B4	VDI1B4	
		Diode Photosensitive 2
HDI1B5	VDI1B5	
		Zener Diode - One Way
HDI1V2	VDI1V2	
		Diac Diode - Two Way
HDI1V3	VDI1V3	
		Photosensitive PNP Transistor
HDV1B6	VDV1B6	
		Bridge rectifier
HDI1BR	VDI1BR	
		3 Phase Bridge Rectifier
HDI1V5	VDI1V5	
		SCR
HDI1V4	VDI1V4	

		Backward (Unitunnel) Diode
HDI1_S00648	VDI1_S00648	
		Tunnel Diode
HDI1_S00645	VDI1_S00645	
		Breakdown Diode, Bidirectional
HDI1_S00647	VDI1_S00647	
		Reverse Conducting Diode Thyristor
HDI1_S00651	VDI1_S00651	
		Turn-off Thyristor
HDI1_S00655	VDI1_S00655	
		Reverse Blocking Diode Thyristor
HDI1_S00650	VDI1_S00650	
		Reverse Blocking Diode Thyristor, N-gate
HDI1_S00653	VDI1_S00653	
		Reverse Conducting Diode Thyristor, N-gate
HDI1_S00661	VDI1_S00661	
		Turn-off Diode Thyristor, N-gate
HDI1_S00656	VDI1_S00656	
		Bidirectional Triode Thyristor, Triac
HDI1_S00659	VDI1_S00659	
		Reverse Blocking Triode Thyristor, P-gate
HDI1_S00654	VDI1_S00654	

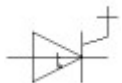


HDI1_S00662

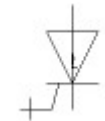


VDI1_S00662

Turn-off Triode Thyristor,P-gate

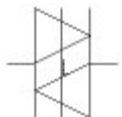


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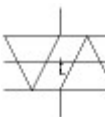


VDI1_S00657

Turn-off Triode Thyristor,P-gate

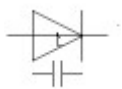


HDI1_S00652

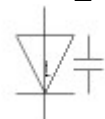


VDI1_S00652

Bidirectional Diode Thyristor, Diac



HCA1_S00644



VCA1_S00644

Variable Capacitance Diode

Miscellaneous

Topics in this section

- [Miscellaneous](#)
- [Cable Markers](#)
- [Power Receptacles](#)
- [Generic Device Boxes](#)
- [Stand-alone Cross-reference Symbols](#)
- [Wire Arrows - Reference Only](#)
- [Splice Symbols](#)
- [Annunciations](#)

Miscellaneous

Horizontal Symbol Vertical Symbol Description



HAN1B



VAN1B

Bell



HAN1Z



VAN1Z

Buzzer



HAN1S



VAN1S

Siren



HGND2



VGND2

Earth/Ground



HGND3



VGND3

Functional Earth



HGND4



VGND4

Protective Earth



HGND5



VGND5

Protective equipotential bond



HGND1



VGND1

Functional Equipotential Bond



HBA1



VBA1

Battery



HBA1R









VBA1R

Battery (Flipped)

		Power Source 1 Phase
HPW1_1PH	VPW1_1PH	
		Power Source 3 Phase
HPW1_3PH	VPW1_3PH	
		Laser
HVD1_S01214	VVD1_S01214	
		Laser as Generator
HVD1_S01215	VVD1_S01215	
		Master
HVD1_S01212	VVD1_S01212	
		Master as Amplifier
HVD1_S01213	VVD1_S01213	
		Spark Gap
HFU1_S00371	VFU1_S00371	
		Spark Gap, Double
HFU1_S00372	VFU1_S00372	
		Surge Diverter, Lightning Arrester
HFU1_S00373	VFU1_S00373	
		Protective Gas Discharge Tube, Symmetric
HFU1_S00375	VFU1_S00375	
		Protective Gas Discharge Tube
HFU1_S00374	VFU1_S00374	


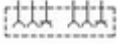
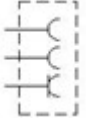

Cable Markers

Horizontal Symbol Vertical Symbol Description

		Cable Marker
HW01	VW01	
		2nd+ Child Marker
HW02	VW02	
		Extra Marker
HT0_CABLE	VT0_CABLE	
		Twisted Pair
HT0_TW	VT0_TW	

Power Receptacles

Horizontal Symbol Vertical Symbol Description

		Duplex Receptacle
HCN1RDUP	VCN1RDUP	
		Single Receptacle
HCN1RSGL	VCN1RSGL	

Generic Device Boxes

Horizontal Symbol Vertical Symbol Description



HDV1TFL



VDV1TFL

4 Terminals



HDV1TC



VDV1TC

3 Terminals



HDV1TB

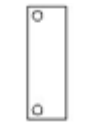


VDV1TB

3 Terminals



HDV1T6



VDV1T6

2 Terminals



HDV1TF



VDV1TF

4 Terminals



HDV1TE



VDV1TE

3 Terminals



HDV1T7



VDV1T7

3 Terminals

tand-alone Cross-reference Symbols

Symbol *Description*



Source Rectangle

HA2S1_REF



Source Hexagon

HA3S1_REF



Source Ellipse

HA5S1_REF



Destination Rectangle

HA2D1_REF



Destination Hexagon

HA3D1_REF



Destination Ellipse

HA5D1_REF

Wire Arrows - Reference Only

Symbol *Description*



Generic Arrow - Left

HA1X1



Generic Arrow - Up

HA1X2



Generic Arrow - Right

HA1X3



Generic Arrow - Down

HA1X4



Arrow Tail - Left

HA1X1Y



Arrow Tail - Up

HA1X2Y



Arrow Tail - Right

HA1X3Y



Arrow Tail - Down

HA1X4Y

Splice Symbols

Horizontal Symbol Vertical Symbol Description



HSP1001



VSP1001

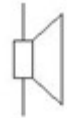
Splice

Annunciations

Horizontal Symbol Vertical Symbol Description

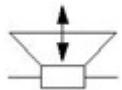


HAN1B7

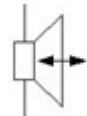


VAN1B7

Loudspeaker



HAN1B8



VAN1B8

Loudspeaker - Microphone



HAN1B9



VAN1B9

Microphone

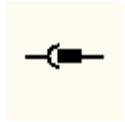
One-Line Components

Topics in this section

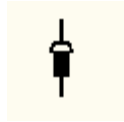
- [Connector](#)
- [Motor Control](#)
- [Transformer](#)
- [Terminal](#)
- [Cable Marker](#)
- [Bus-tap](#)
- [Miscellaneous](#)

Connector

Horizontal Symbol Vertical Symbol Description



HC01PJ_1-

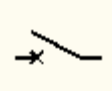

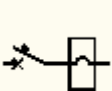

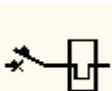


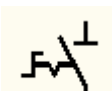
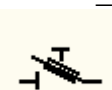
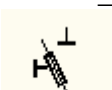


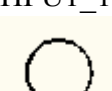



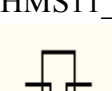


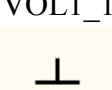


VC01PJ_1-

Jack/Plug





Motor Control

Horizontal Symbol Vertical Symbol Description

		Circuit breaker
HCB11_1-	VCB11_1-	
		Motor circuit protector
HCB11_1M-	VCB11_1M-	
		Thermal circuit breaker
HCB11TH_1-	VCB11TH_1-	
		Disconnect
HDS11_1-	VDS11_1-	
		Fused disconnect
HDS11F_1-	VDS11F_1-	
		Fuse
HFU1_1-	VFU1_1-	
		Motor
HMO13_1-	VMO13_1-	
		Motor starter
HMS11_1-	VMS11_1-	
		Overload
HOL1_1-	VOL1_1-	
		Vertical Capacitor
HCA113_1-	VCA113_1-	

Transformer

Horizontal Symbol Vertical Symbol Description

		Transformer 1
HXF1_1-	VXF1_1-	
		Transformer 2
HXF2_1-	VXF2_1-	

Terminal

Horizontal Symbol Vertical Symbol Description



HT0001_1-



VT0001_1-

Square terminal



HT0002_1-

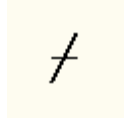


VT0002_1-

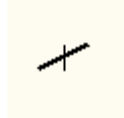
Round terminal

Cable Marker

Horizontal Symbol Vertical Symbol Description



HW01_1-









VW01_1-

Cable marker



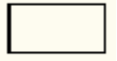
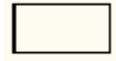
Bus-tap

Horizontal Symbol Vertical Symbol Description








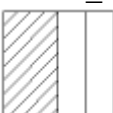
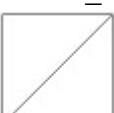
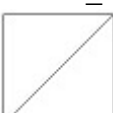
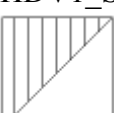
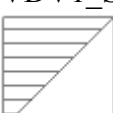
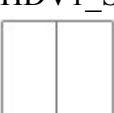







		Bus-tap - main/dot
HDV1_BT_1-	VDV1_BT_1-	
		Bus-tap - dual/tee
HDV1_BTT_1-	VDV1_BTT_1-	
		Bus-tap - dual/corner
HDV1_BTL_1-	VDV1_BTL_1-	

Miscellaneous

Horizontal Symbol Vertical Symbol Description

		Power receptacle
HC01WR_1-	VC01WR_1-	
		Generic load
HDV1_1-	VDV1_1-	

Power Stations

<i>Horizontal Symbol</i>	<i>Vertical Symbol</i>	<i>Description</i>
		Generating Station, Planned
HDV1_S00385	VDV1_S00385	
		Generating Station, In Service Or Unspecified
HDV1_S00386	VDV1_S00386	
		Combined Electric And Heat Generating Station, Planned
HDV1_S01419	VDV1_S01419	
		Combined Electric And Heat Generating Station, In Service Or Unspecified
HDV1_S01420	VDV1_S01420	
		Hydroelectric Generating Station, Planned
HDV1_S00391	VDV1_S00391	
		Hydroelectric Generating Station, In Service Or Unspecified
HDV1_S00392	VDV1_S00392	
		Thermoelectric Generating Station,Planned
HDV1_S00393	VDV1_S00393	
		Thermoelectric Generating Station, In Service Or Unspecified
HDV1_S00394	VDV1_S00394	
		Nuclear Energy Generating Station,Planned
HDV1_S00395	VDV1_S00395	
		Nuclear Energy Generating Station, In Service Or Unspecified
HDV1_S00396	VDV1_S00396	



HDV1_S00397



VDV1_S00397

Geothermal Generating Station, Planned

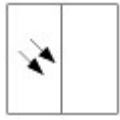


HDV1_S00398

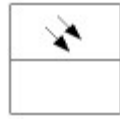


VDV1_S00398

Geothermal Generating Station, In Service Or Unspecified



HDV1_S00399



VDV1_S00399

Solar Generating Station, Planned

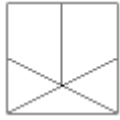


HDV1_S00400

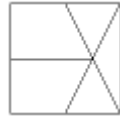


VDV1_S00400

Solar Generating Station, In Service Or Unspecified

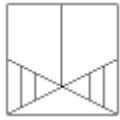


HDV1_S00401

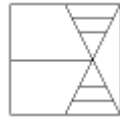


VDV1_S00401

Wind Generating Station,Planned



HDV1_S00402



VDV1_S00402

Wind Generating Station, In Service Or Unspecified



HDV1_S00403



VDV1_S00403

Plasma Generating Station,Planned



HDV1_S00404



VDV1_S00404

Plasma Generating Station, In Service Or Unspecified



HDV1_S00389



VDV1_S00389

Substation, Planned

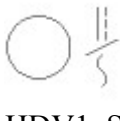


HDV1_S00390



VDV1_S00390

Substation, In Service Or Unspecified



HDV1_S00405



VDV1_S00405

Converting Substation, Planned



HDV1_S00406



VDV1_S00406

Converting Substation, In Service Or Unspecified