JC1 SERIES JC1 SWITCHES

Easy drop-in switches with two position teachable option

Teachable
2 Position





• Combine Teachable Switches for Sensing up to 4 Positions

Standard
Single Position



• Unique housing for easy slot insertion





ISO-9001 CERTIFIED
Quality Management System Certified

JC101

MDN®

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ORDERING DATA: SERIES JC1 SWITCHES

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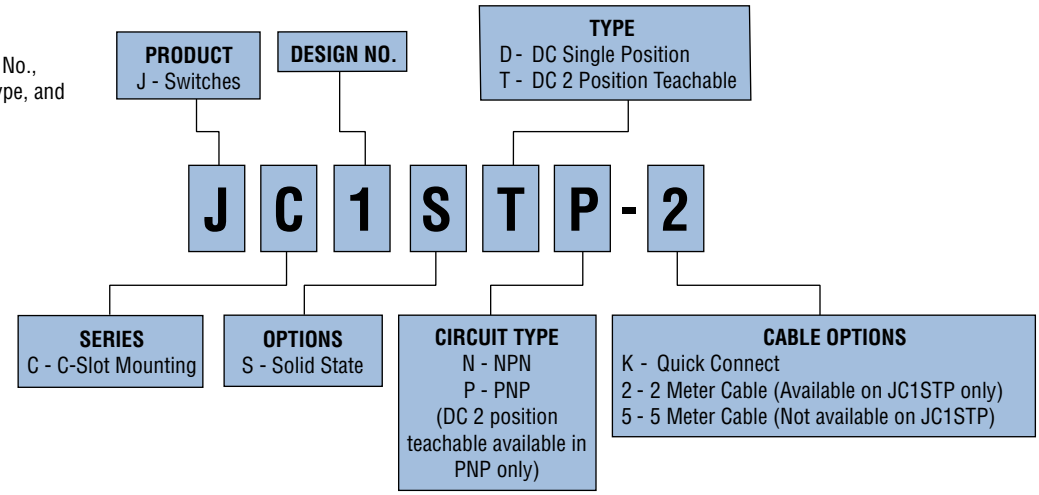
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TO ORDER SPECIFY:
Product, Series, Design No., Options, Type, Circuit Type, and Cable Options.



SWITCH CROSS REFERENCE CHART

CURRENT 6790 SWITCH	DESCRIPTION	NEW PHD SWITCH
67902-1-02	PNP or NPN DC Reed, 2 meter Cable	no direct substitute*†
67902-1-05	PNP or NPN DC Reed, 5 meter Cable	no direct substitute*†
67903-1-02	NPN DC Solid State, 2 meter Cable	JC1SDN-5
67903-1-05	NPN DC Solid State, 5 meter Cable	JC1SDN-5
67904-1-02	PNP DC Solid State, 2 meter Cable	JC1SDP-5
67904-1-05	PNP DC Solid State, 5 meter Cable	JC1SDP-5
67922-1	PNP or NPN DC Reed, Quick Connect	no direct substitute*†
67923-1	NPN DC Solid State, Quick Connect	JC1SDN-K
67924-1	PNP DC Solid State, Quick Connect	JC1SDP-K
67929-2	AC Reed, Quick Connect	still available

*Consider Solid State to replace DC Reed.

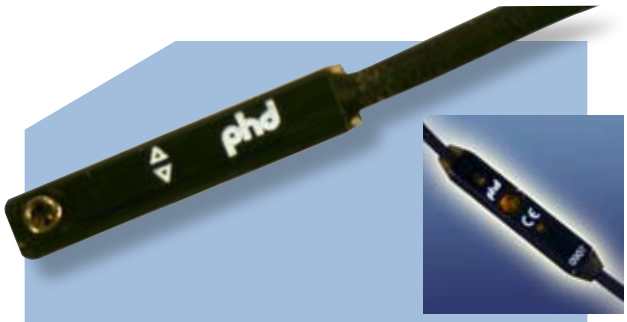
† CAUTION: If used for 67902-1-xx or 67922-1 Switch replacement, power connection (brown and blue leads) may need to be reversed to match connection diagram on page 6.

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www.phdinc.com/switches

TEACHABLE

Teachable Series JC1 Switches

- Teachable switches feature two programmable outputs. Switch is simply mounted in a convenient location, such as middle of travel, then actuator is placed in first desired position and first output is set. Then actuator is placed in second desired position and second output is set. Outputs retain settings even after power interruption.
- Since each switch provides two outputs, an actuator with only two slots may have up to four outputs by using two switches.
- Offered in 12 – 30 VDC current sourcing (PNP) version only
- Available in cabled (2 meter) or quick connect versions.



Use two position teachable switches for:

• Reduced cabling
• Simplified setup,
• More sensing positions

STANDARD

Standard Series JC1 Switches

- Available in cabled (5 meter) or quick connect versions
- Available in solid state sensing only for longest life and most reliable operation
- Offered in 10 – 30 VDC current sinking (NPN) and current sourcing (PNP) versions for simple interfacing to system controllers.
- Replaces PHD Series 6790 Switches (excluding AC applications) See chart on page 2.



Standard JC1 Switches can be used on many PHD Standard Actuators

Common Benefits for Both Styles

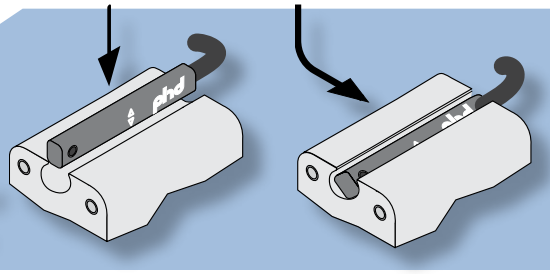
- Fits into 4mm switch slot
- IP67 Environmental Protection
- LED indicator for convenient setting and troubleshooting
- Integrated protection circuitry including short circuit protection
- Polyurethane (PUR) jacketed cable
- Available in solid state sensing only for longest life and most reliable operation
- Improved switch hysteresis and magnetic response uniformity
- Quick connect available

Recommended PHD Products Use

- **GRIPPERS:** Series GRK, EGRK, GRB, GRF (JC1SD only), & GRS (JC1SD only)
- **ROTARY ACTUATORS:** Series RI, RCC
- **SLIDES:** Series SFP, SFM, SHP, STP, SIP, SMx, & SxL, SxH
- **CYLINDERS:** Series CRS & CTS

Both switches have a unique housing design which allows "drop-in" installation from the side, does not have to be inserted from the end of the slot

Tilt switch to drop in, then rotate logo up.

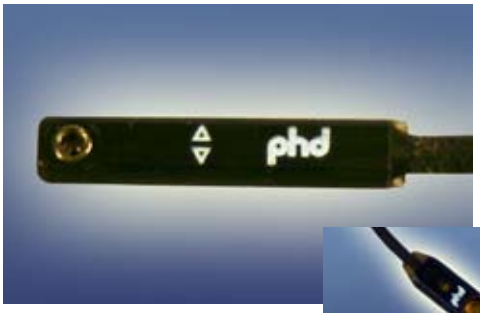


DIMENSIONS: SERIES JC1ST TEACHABLE SWITCHES

SERIES JC1ST TWO POSITION TEACHABLE MAGNETIC SWITCH

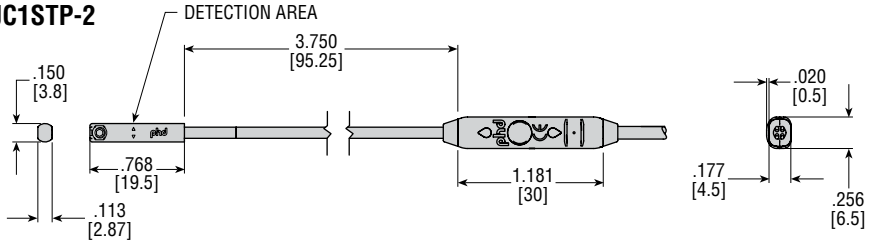
TEACHABLE

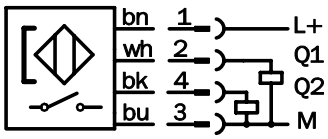
This switch provides the ability to identify two separately programmable positions with a single switch. Programmable capability means no “fine-tuning.” With switch properly aligned, just place actuator in desired positions and program. Solid-state sensing technology provides a highly reliable switch. Elliptical housing allows for easy “drop-in” installation from the side, and does not have to be inserted from the end of the slot. LED indicators on module for positioning and programming. Available with 2 meter cable or 8 mm threaded Quick Connect.



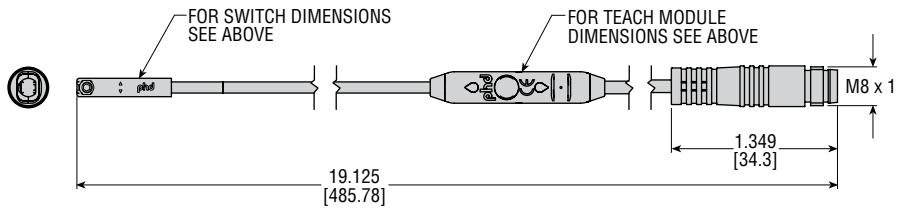


JC1STP-2

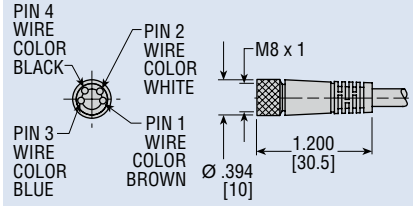




JC1STP-K (Quick Connect)



81284-1-001 CORDSET



ENGINEERING DATA: SERIES JC1ST TEACHABLE SWITCHES



JC1STP-2



JC1STP-K



81284-1-001

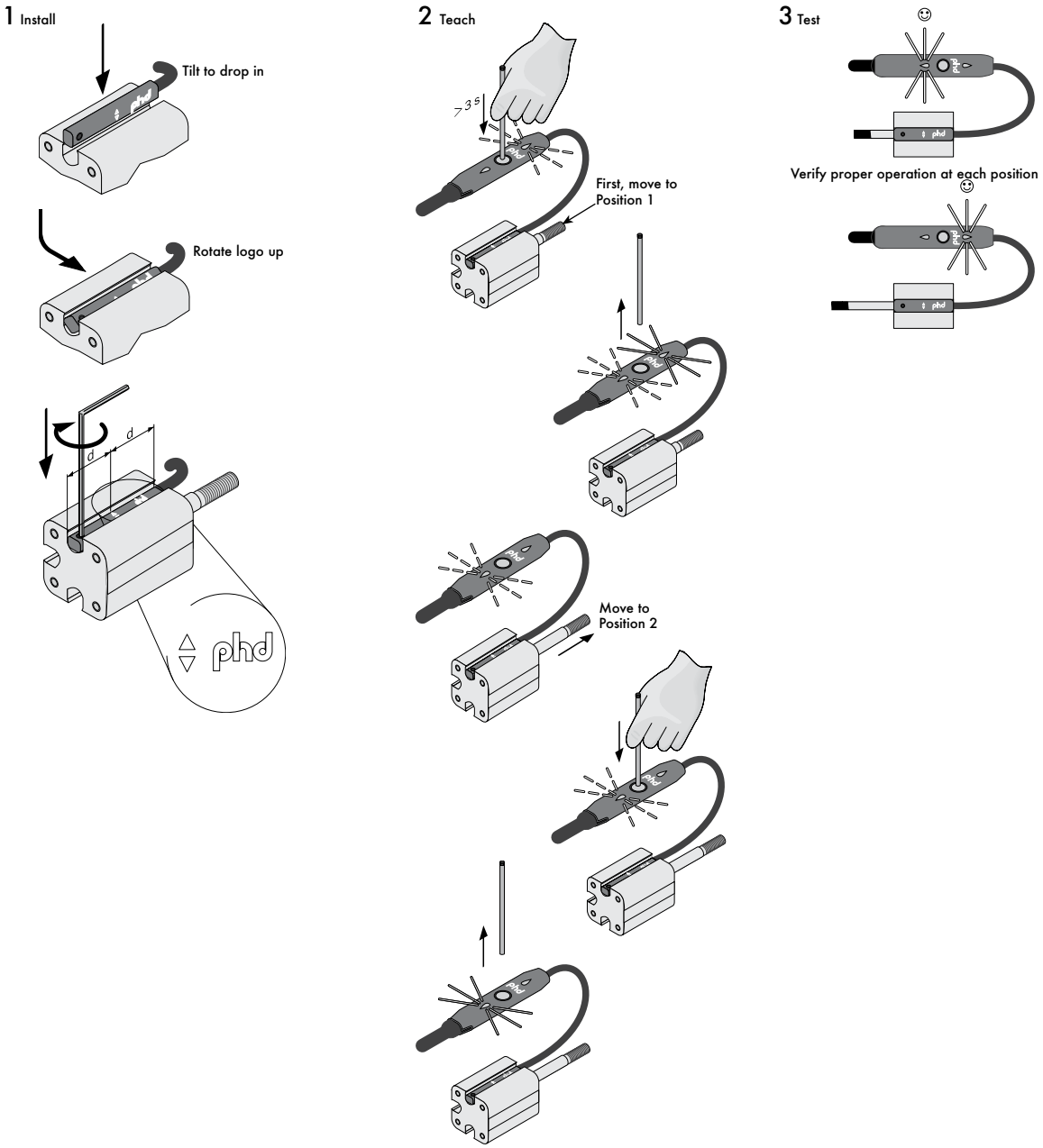
PART NO.	SWITCH DESCRIPTION
JC1STP-2	PNP (Source), Solid State, 12-30 VDC, 2 meter cable
JC1STP-K	PNP (Source), Solid State, 12-30 VDC, Quick Connect

MATCHING CORDSET

PART NO.	DESCRIPTION
81284-1-001	M8, 4 pin, Straight Female Connector, 5 meter cable

SPECIFICATIONS	JC1STP-x
OPERATING PRINCIPLE	Programmable Magnetic Field Characterization
INPUT VOLTAGE	12 - 30 VDC
NUMBER & TYPE OF OUTPUTS	Two PNP (source), separately adjustable
OUTPUT CURRENT	100 mA max., Short Circuit Protection
VOLTAGE DROP	≤ 2.2 VDC
SWITCH BURDEN	≤ 15 mA
ENVIRONMENTAL	IP67
OPERATING TEMP.	-20°C to 75°C
TYP. DETECTION AREA	0-50 mm

PROGRAMMING GUIDE: SERIES JC1 TEACHABLE SWITCHES



Setup

1 Insert sensor into the C-slot in the middle from above and tighten it using the Allen key.

2 Connect the sensor to operating voltage (see specifications).

- Teach-in of the switching points:
  Set the position for the 1st switching point
- Press the teach button for 3 s; LED 1 blinks
- Release teach button; 1st switching point is stored.
  LED 2 blinks (2nd switching point).
- Set the position for the 2nd switching point
- Press the teach button for a short time; 2nd switching point is stored.

3 Check the first and second switching points:
Move to the position for the first switching point. LED of the first switching point lights. If it does not light, check the application conditions and realign. Move to the position for the second switching point; LED of the first switching point turns off, and the LED of the second switching point lights. If the first LED does not turn off or the second LED does not light, check the application conditions and realign.

Maintenance

PHD magnetic cylinder sensors do not require any maintenance. We recommend that you inspect the cable and plug in connections at regular intervals.

DIMENSIONS: SERIES JC1SD STANDARD SWITCHES

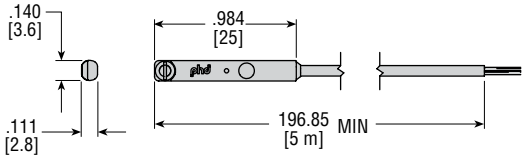
SERIES JC1SD MAGNETIC SWITCH

STANDARD

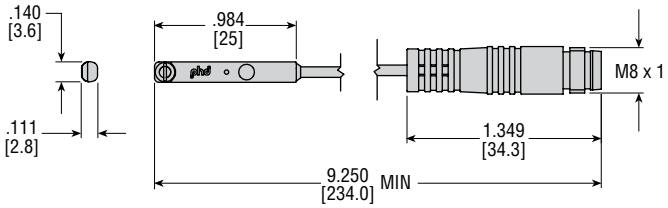
This switch provides the ability to identify a single position. Solid-state sensing technology provides a highly reliable switch. Elliptical housing allows for easy “drop-in” installation. Includes LED indicator for convenient means of positioning. Available with PNP or NPN output. Available with cable or 8 mm threaded Quick Connect.



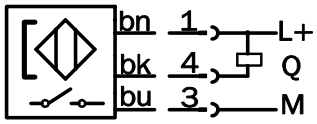
JC1SDx-5



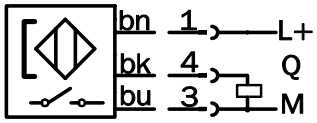
JC1SDx-K (Quick Connect)



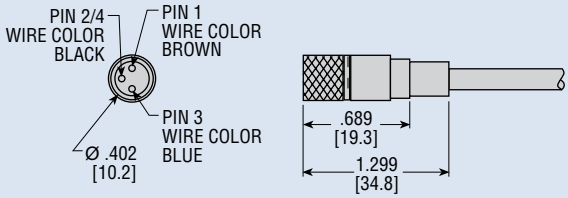
JC1SDN-x



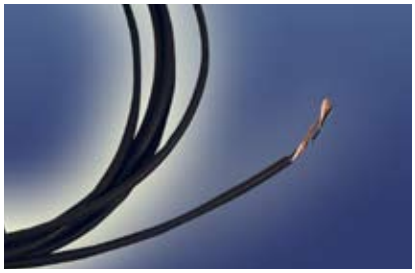
JC1SDP-x



63549-xx CORDSET



ENGINEERING DATA: SERIES JC1SD STANDARD SWITCHES



JC1SDP-5 & JC1SDN-5



JC1SDP-K & JC1SDN-K



63549-XX

PART NO.	SWITCH DESCRIPTION
JC1SDP-5	PNP (Source), Solid State, 10-30 VDC, 5 meter cable
JC1SDP-K	PNP (Source), Solid State, 10-30 VDC, Quick Connect
JC1SDN-5	NPN (Sink), Solid State, 10-30 VDC, 5 meter cable
JC1SDN-K	NPN (Sink), Solid State, 10-30 VDC, Quick Connect

MATCHING CORDSET

PART NO.	DESCRIPTION
63549-02	M8, 3 pin, Straight Female Connector, 2 meter cable
63549-05	M8, 3 pin, Straight Female Connector, 5 meter cable

SPECIFICATIONS	JC1SDP-x	JC1SDN-x
OPERATING PRINCIPLE	Solid State Detection of Moving Magnet	
INPUT VOLTAGE	10 - 30 VDC	
OUTPUT TYPE	PNP (source)	NPN (sink)
OUTPUT CURRENT	100 mA max., Short Circuit Protection	
VOLTAGE DROP	≤ 2.5 VDC	
SWITCH BURDEN	≤ 8 mA	
ENVIRONMENTAL	IP67	
OPERATING TEMP.	-25°C to 75°C	

APPLICATIONS: SERIES JC1 STANDARD SWITCHES

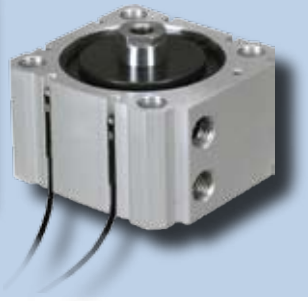
Series JC1SD Magnetic Switches replace the old style Series 6790 DC Switches and can be used on all standard PHD Components listed.

- **GRIPPERS:** Series GRK, EGRK, GRB, GRF (JC1SD only), & GRS (JC1SD only)
- **ROTARY ACTUATORS:** Series RI, RCC
- **SLIDES:** Series SFP, SFM, SHP, STP, SIP, SMx, & SxL, SxH
- **CYLINDERS:** Series CRS & CTS

Old Series 6790 Switch



Series CR





Series GRF (JC1SD only)



Series SxH



Series CTS



Series GRB



Series SFM, SFP



Series GRS (JC1SD only)



Series SIP



Series STP



Series RCC



Series GRK





Series SHP

Series RI



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