



Cylinder switch F/K/M/T Series

Uses a bend-resistant lead wire as standard.

* There are bore sizes which cannot be combined.



F*S



F*V

F*H

F*YV
F3PVF*YH
F3PH

Specifications (F Series)

Item	Reed 2-wire	Proximity 2-wire		Proximity 3-wire	Proximity 3-wire	Proximity 3-wire
	F0H/V	F2H/V / F2S	F2YH/F2YV	F3H/V / F3S	F3PH/V	F3YH/F3YV
Applications	Dedicated for programmable controller			For programmable controller, relay		
Output method	-			NPN output	PNP output	NPN output
Power supply voltage	-			10 to 28 VDC	4.5 to 28 VDC	10 to 28 VDC
Load voltage	24 VDC	10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 20 mA (*1)			50 mA or less		
Current consumption	-			10 mA or less with 24 VDC		
Internal voltage drop	4 V or less			0.5 V or less	0.5 V or less at 30 mA	0.5 V or less
Display lamp	Yellow LED (Lit when ON) *3		Red/green LED (Lit when ON))	Yellow LED *3 (Lit when ON))	Yellow LED (Lit when ON)	Red/green LED (Lit when ON))
Leakage current	1 mA or less			10 µA or less		
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.15mm ²)			1 m (oil resistant vinyl cabtyre cable 3-conductor 0.15mm ²)		
Shock resistance	294m/s ²	980m/s ²				
Insulation resistance	20 MΩ and over with 500 VDC megger					
Withstand voltage	No failure after 1 minute of 1,000 VAC application.					
Ambient temperature	-10 to +60°C					
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))					
Contact protection circuit	None	-				
Weight	1 m: 10 g 3 m: 29 g			1 m: 10 g 3 m: 29 g		

*1: The max. load current is 20mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10mA with 60°C).

*2: With F2S and F3S, if mounting two switches in one groove to enable detection at both ends, mount them so that their set screws face outward.

*3: Indicator lamps for F2S and F3S are red.

[How to order switch]

If you order switches for the P4 Series separately, do as follows.

SW-□□□-P4 example SW-T2H-P4

(*1) When ordering Low-Voltage Directive compliant products separately, do as follows.

SW-□□□-ST-P4 example SW-T5H-ST-P4

(*2) If you order products with resin connector Discrete, do as follows. Applies to the above T2H, T2YH, T2WH, K2YH, M2WV, F2H only.

SW-□□□-P4J example SW-T2H-P4J

[Incorporated switch]

For cylinder specification P4 and P40, switch indicating "P4" is supplied. Cylinder mountable switch differs according to each cylinder.

Refer to the switch compatibility table on Intro Pages 23 to 26.

Example) GRC: Reed switch TO* and T5* cannot be mounted.

SRM3: Proximity 1-color display T2*, T3* cannot be installed.

K*H
K*PHK*V
K*PV

K*YH



K*YV

Specifications (K Series)

Item	Proximity 2-wire		Proximity 3-wire		
	K2H/K2V	K2YH/K2YV	K3H/V (NPN output)	K3PH/V (PNP output)	K3YH/V (2-color display)
Applications	Dedicated for programmable controller		For programmable controller, relay		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		10 to 28 VDC		
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 20 mA (*1)		50 mA or less		
Current consumption	-		10 mA or less with 24 VDC	10 mA or less with 24 VDC	10 mA or less with 24 VDC
Internal voltage drop	4 V or less		0.5 V or less		
Display lamp	Red LED (Lit when ON)	Red/green LED (Lit when ON))	Red LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON))
Leakage current	1 mA or less		10 μA or less		
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.3mm ²)	1 m (oil resistant vinyl cabtyre cable 3-conductor 0.2mm ²)		1 m (oil resistant vinyl cabtyre cable 3-conductor 0.2mm ²)
Shock resistance	980m/s ²				
Insulation resistance	20 MΩ and over with 500 VDC megger	100 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger		100 MΩ and over with 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.				
Ambient temperature	-10 to +60°C				
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))				
Weight	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 31 g 3 m: 85 g 5 m: 139 g	1 m: 18 g 3 m: 49 g 5 m: 80 g		1 m: 31 g 3 m: 85 g 5 m: 142 g

Item	Reed 2-wire			
	K0H/K0V		K5H/K5V	
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection	
Power supply voltage	-			
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC
Load current	5 to 50mA	7 to 20mA	50 mA or less	20 mA or less
Current consumption	-			
Internal voltage drop	3 V or less (for DC, at load current 30mA)		0.1V or less (*3)	
Display lamp	Red LED (Lit when ON)		No indicator lamp	
Leakage current	0mA			
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)			
Shock resistance	294m/s ²			
Insulation resistance	20 MΩ and over with 500 VDC megger			
Withstand voltage	No failure after 1 minute of 1,000 VAC application.			
Ambient temperature	-10 to +60°C			
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))			
Contact protection circuit	None			
Weight	1 m: 18 g 3 m: 49 g 5 m: 80 g			

*1: The above max. load current is the value at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*2: Installation of K3PH, K3PV onto compatible cylinders is made to order.

*3: Internal resistance 0.5 Ω or less.



M*V



M*H

Specifications (M Series)

Item	Proximity 2-wire		Proximity 3-wire		
	M2V/M2H	M2WV(2-color display)	M3H/V (NPN output))	M3PH/V (PNP output)	M3WV (2-color display)
Applications	Dedicated for programmable controller		For programmable controller, relay, IC circuit, compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output
Power supply voltage	-		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 30mA		100 mA or less	100 mA or less	100 mA or less
Current consumption	-		10 mA or less with 24 VDC	10 mA or less with 24 VDC	15 mA or less with 24 VDC
Internal voltage drop	4 V or less		0.5 V or less		
Display lamp	Red LED (Lit when ON)	Red/green LED (Lit when ON))	Red LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON))
Leakage current	1 mA or less		10 μA or less	0.05 mA or less	10 μA or less
Lead wire length	1m (Oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)		1m (Oil resistant vinyl cabtyre cable 3-conductor 0.15mm ²)		
Shock resistance	980m/s ²				
Insulation resistance	100 MΩ and over with 500 VDC megger				
Withstand voltage	No failure after 1 minute of 1,000 VAC application.				
Ambient temperature	-10 to +60°C				
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))				
Weight	1 m: 22 g 3 m: 57 g 5 m: 93 g		1 m: 22 g 3 m: 57 g 5 m: 93 g		

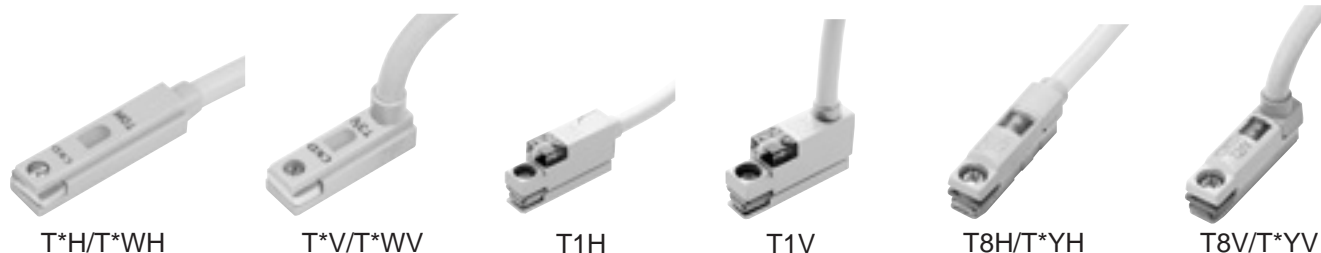
Item	Reed 2-wire			
	M0V/M0H		M5V/M5H	
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection	
Power supply voltage	-			
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC
Load current	5 to 50mA	7 to 20mA	50 mA or less	20 mA or less
Current consumption	-			
Internal voltage drop	3 V or less (with 30mA load current for DC)		0.1V or less (*4)	
Display lamp	Red LED (Lit when ON)		No indicator lamp	
Leakage current	0mA			
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)			
Shock resistance	294m/s ²			
Insulation resistance	100 MΩ and over with 500 VDC megger			
Withstand voltage	No failure after 1 minute of 1,000 VAC application.			
Ambient temperature	-10 to +60°C			
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))			
Contact protection circuit	None			
Weight	1 m: 22 g 3 m: 57 g 5 m: 93 g			

*1: M*H is available for SRL3, SRG3, and SRT3.

*2: Refer to the switch compatibility table on Intro Pages 23 to 26 for switch model numbers that can be equipped on cylinders.

*3: Contact CKD separately for cylinder switch with connector.

*4: Internal resistance 0.5 Ω or less.



Specifications (T Series)

Item	Proximity 2-wire						Proximity 3-wire			
	T1H/T1V	T2H/T2V	T2HR3/T2VR3 (Bending resistant lead wire)	T2JH/T2JV (Off-delay)	T2YH/T2YV (2-color display)	T2WH/T2WV(2- color display)	T3H/T3V	T3PH/T3PV (PNP output)	T3YH/T3YV (2-color display)	T3WH/T3WV (2-color display)
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller					For programmable controller, relay			
Output method	-						NPN output	PNP output	NPN output	NPN output
Power supply voltage	-						10 to 28 VDC			
Load voltage	85 to 265 VAC	10 to 30 VDC				24 VDC ±10%	30 VDC or less			
Load current	5 to 100mA	5 to 20 mA (*1)					100 mA or less		50 mA or less	
Current consumption	-	-					With 24 VDC 10 mA or less	With 24 VDC 10 mA or less	10 mA or less with 24 VDC	
Internal voltage drop	10% or less of load voltage	4 V or less					0.5 V or less			
Off-delay time	-			200±50 ms	-		-			
Display lamp	Red LED (Lit when ON)				Red/greenLED (Lit when ON)	Red/greenLED (Lit when ON)	Red LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	
Leakage current	1 mA or less with 100 VAC, 2 mA or less with 200 VAC	1 mA or less					10 µA or less			
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.3mm ²)	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)	3 m (elasticity, oil resistance Vinyl cabtyre cable 2-conductor 0.2mm ²)	1 m (oil resistant vinyl cab Tire cable 2-conductor 0.3mm ²)		1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)	1 m (oil resistant vinyl cabtyre cable 3-conductor 0.2mm ²)	1 m (oil resistant vinyl cabtyre cable 3-conductor 0.3mm ²)	1 m (oil resistant vinyl cabtyre cable 3-conductor 0.2mm ²)	
Shock resistance	980m/s ²									
Insulation resistance	100 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger	100 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger	100 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger	100 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,500 VAC application.	No failure after 1 minute of 1,000 VAC application.								
Ambient temperature	-10 to +60°C									
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))									
Weight	1 m: 33g 3 m: 87g 5 m: 142g	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 33 g 3 m: 87 g 5 m: 142 g	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 33 g 3 m: 87 g 5 m: 142 g	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 33 g 3 m: 87 g 5 m: 142 g	1 m: 18 g 3 m: 49 g 5 m: 80 g

Descriptions	Reed 2-wire						
	T0H/T0V		T5H/T5V		T8H/T8V		
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		For programmable controller, relay		
Power supply voltage	-						
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 50mA	7 to 20mA	50 mA or less	20 mA or less	5 to 50mA	7 to 20mA	7 to 10mA
Current consumption	-						
Internal voltage drop	3 V or less (at load current 30mA for DC)		0.1V or less (*5)		4 V or less		
Display lamp	Red LED (Lit when ON)		No indicator lamp		Red LED (Lit when ON)		
Leakage current	0mA						
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)				1 m (oil resistant vinyl cabtyre cable 2-conductor 0.3mm ²)		
Shock resistance	294m/s ²						
Insulation resistance	20 MΩ and over with 500 VDC megger				100 MΩ and over with 500 VDC megger		
Withstand voltage	No failure after 1 minute of 1,000 VAC application.				No failure after 1 minute of 1,500 VAC application		
Ambient temperature	-10 to +60°C						
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))						
Contact protection circuit	None				Yes		
Weight	1 m: 18 g 3 m: 49 g 5 m: 80 g				1 m: 33g 3 m: 87g 5 m: 142g		

*1: The above max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.... (5 to 10 mA at 60°C.)

*2: T2HR3, T2VR3, T3PH and T3PV switches are available as made to order when installed onto compatible cylinders.

*3: The T2JH and T2JV switches are available as made to order when installed onto SRL3 (ø32 to ø100), MRL2, LCR, UCAC2 or Hand-chuck.

*4: Switch types are limited depending on cylinder. Refer to Intro Pages 23 to 26 for details.

*5: Internal resistance 0.5 Ω or less.