

Cylinder switch F/K/M/T Series

Uses a bend-resistant lead wire as standard.





Specifications (F Series)

Item	Reed 2-wire Proximity 2-wire F			Proximity 3-wire Proximity 3-wire Proximity 3-wire				
nem	F0H/V	F2H/V / F2S	F2YH/F2YV	F3H/V / F3S	F3PH/V	F3YH/F3YV		
Applications	Dedicate	ed 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	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 LE	D (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 v	inyl cabtyre cable 2-c	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 M Ω and over wi	th 500 VDC megger				
Withstand voltage		No f	ailure after 1 minute	of 1,000 VAC applica	tion.			
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-

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

SW- C-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-

[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.

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Cylinder Switch

Tube

Tube

Gas generator Fluid control components Electric actuator

Motor Motorless specification specificatio

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K Series

K*YV



K*H K*PH

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ltom	Proximi	ty 2-wire		Proximity 3-wire		s Switch
ltem	K2H/K2V	K2YH/K2YV	K3H/V (NPN output)	K3PH/V (PNP output)	K3YH/V (2-color display)	witc
Applications	Dedicated for progr	ammable controller	For	programmable controller		<u> </u>
Output method		-	NPN output	PNP output	NPN output	
Power supply voltage		_		10 to 28 VDC	÷	
Load voltage	10 to 3	0 VDC		30 VDC or less		
Load current	5 to 20	mA (*1)		50 mA or less		
Current consumption		_	10 mA or less with 24 VD	C 10 mA or less with 24 VDC	10 mA or less with 24 VDC	
Internal voltage drop	4 V o	r less		0.5 V or less	÷	
Display lamp	Red LED (Lit when ON)	Red/green LED (Lit when ON))	Red LED (Lit when ON	I) Yellow LED (Lit when ON) Red/green LED (Lit when ON))	
Leakage current	1 mA	or less		10 µA or less	÷	
Lead wine leaseth	1 m (oil resistant vinyl cabtyre	1 m (oil resistant vinyl cabtyre	1 m (oil resistant vinyl	1 m (oil resistant vinyl cabtyre		
Lead wire length	cable 2-conductor 0.2mm ²)	cable 2-conductor 0.3mm ²)	3-conductor 0.2mm ²)		cable 3-conductor 0.2mm ²)	
Shock resistance			980m/s ²			
Insulation resistance	20 $M\Omega$ and over with 500 VDC megger	100 $\ensuremath{M\Omega}\xspace$ and over with 500 VDC megger	20 MΩ and over v	vith 500 VDC megger	$100\ \text{M}\Omega$ and over with 500 VDC megger	ompo
Withstand voltage		No failure aft	ter 1 minute of 1,000 VAC application.			
Ambient temperature			-10 to +60°C			
Degree of protection		IEC stand	dards IP67, JIS C0920 (water-tight))			ntro
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 i	m: 49 g 5 m: 80 g	1 m: 31 g 3 m: 85 g 5 m: 142 g	ller
						E
		Reed 2	-wire			Fitting
ltem	КОН/		K5H/	/K5V		~
Applications	For programmable		For programmable controller, relay, IC circuit (without indicator lamp), serial connection			valve
Power supply voltage		-	·····,····,····,			Ve
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC		S
Load current	5 to 50mA	7 to 20mA	50 mA or less	20 mA or less		Silencer
Current consumption	l	-				er
Internal valtage drep	2 V or loss (for DC o	t load ourrent 20mA)	0.1\/.or	000 (*2)		

K*YH

K*V K*PV

Reed 2-wire							
КОН	/K0V	K5H/K5V					
For programmabl	e controller, relay	For programmable controller, relay, IC circuit (without indicator lamp), serial connect					
		-					
12/24 VDC	110 VAC 5/12/24 VDC 11		110 VAC				
5 to 50mA	5 to 50mA 7 to 20mA 50 mA or less		20 mA or less				
		-					
3 V or less (for DC, a	at load current 30mA)	0.1V or I	ess (*3)				
Red LED (Lit when ON)		No indicator lamp					
OmA							
1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2mm ²)							
294m/s ²							
	20 M Ω and over wi	th 500 VDC megger					
No failure after 1 minute of 1,000 VAC application.							
-10 to +60°C							
IEC standards IP67, JIS C0920 (water-tight))							
	No	one					
1 m: 18 g 3 m: 49 g 5 m: 80 g							
	For programmabl 12/24 VDC 5 to 50mA 3 V or less (for DC, a Red LED (L 1 m (K0H/KOV For programmable controller, relay 12/24 VDC 110 VAC 5 to 50mA 7 to 20mA 3 V or less (for DC, at load current 30mA) Red LED (Lit when ON) Red LED (Lit when ON) 1 m (oil resistant vinyl cabtyr 294 20 MΩ and over wi No failure after 1 minute -10 to IEC standards IP67, J	K0H/K0V K5H/ For programmable controller, relay For programmable controller, relay, IC circui - - 12/24 VDC 110 VAC 5/12/24 VDC 5 to 50mA 7 to 20mA 50 mA or less - - - 3 V or less (for DC, at load current 30mA) 0.1V or I Red LED (Lit when ON) No indica 0mA 0mA 1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2 294m/s² 20 MΩ and over with 500 VDC megger No failure after 1 minute of 1,000 VAC application -10 to +60°C IEC standards IP67, JIS C0920 (water-tight)) None				

. The above max, load current is the value at 25°C. The current is lower 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. mA if the operating ambient temperature around

M Series

Pneumatic valves Vacuum components

Silencer Auxiliary Fitting Speed Clean air valve valve Pneumatic auxiliary components

Tube





M*H

CE

Specifications (M Series)

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ltem	Proximit	y 2-wire	Proximity 3-wire				
nem	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 con	ntroller, relay, IC circuit, o	compact solenoid valve		
Output method	-		NPN output	PNP output	NPN output		
Power supply voltage	-		4.5 to 2	28 VDC	10 to 28 VDC		
Load voltage	10 to 3	0 VDC		30 VDC or less	` 		
Load current	5 to 3	0mA	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 oi	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 c	or less	10 µA or less	0.05 mA or less	10 µA or less		
Lead wire length	1m (Oil resistant vinyl cabtyre	e cable 2-conductor 0.2mm ²)	1m (Oil resistan	t vinyl cabtyre cable 3-c	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 stands	ards IP67, JIS C0920 (w	ater-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				

lt e m	Reed 2-wire							
Item	MOV	/мон	M5V/M5H					
Applications	For programmable	e 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	7 to 20mA 50 mA or less 20					
Current consumption			-					
Internal voltage drop	3 V or less (with 30mA load current for DC) 0.1V or less		ess (*4)					
Display lamp	Red LED (Lit when ON)		No indicator lamp					
Leakage current	OmA							
Lead wire length	1 m	oil resistant vinyl cabty	tyre cable 2-conductor 0.2mm ²)					
Shock resistance		294	lm/s ²					
Insulation resistance		100 M Ω and over w	vith 500 VDC megger					
Withstand voltage	١	lo failure after 1 minute	of 1,000 VAC application	l.				
Ambient temperature		-10 to	o +60°C					
Degree of protection	IEC standards IP67, JIS C0920 (water-tight))							
Contact protection circuit		None						
Weight		1 m:22 g 3 m	n: 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.

Series



Specifications (T Series)

T*H/T*WH

Item

Applications

Output method

Load voltage

Load current

Off-delay time

Display lamp

Leakage current

Power supply voltage

Current consumption

Internal voltage drop



T1H/T1V

For programmable controller, relay, compact solenoid valve

85 to 265 VAC

5 to 100mA

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10% or less of load voltage

1 mA or less with 100 VAC, 2 mA or less with 200 VAC



T2JH/T2JV

(Off-delay)

Dedicated for programmable controller

5 to 20 mA (*1)

4 V or less

200±50 ms

1 mA or less

Proximity 2-wire

T2HR3/T2VR3

-

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10 to 30 VDC

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T2H/T2V

Red LED (Lit when ON)



T2WH/T2WV(2-

color display

24 VDC ±10%

T3H/T3V

With 24 VDC 10 mA or less

T2YH/T2YV

(2-color display



Proximity 3-wire

For programmable controller, relay

NPN output PNP output NPN output NPN output

10 to 28 VDC

30 VDC or less

0.5 V or less

10 µA or less

T3YH/T3YV

(2-color display

T3PH/T3PV

(PNP output)

With 24 VDC 10 mA or less

100 mA or less

 Red/greenLED
 Red/greenLED
 Red LED
 Lit when ON)
 Yellow LED
 Lit when ON)
 Red/green LED
 Lit when ON)



T8V/T*YV

50 mA or less

10 mA or less with 24 VDC

T3WH/T3WV

(2-color display)



P4 Series

Tube

Applications	For programmable controllor, relay For program		mable controller, relay, IC circu icator lamp), serial connection		For programmabl	-	relav	
Descriptions	T0H/T0V			T5H/T5V		T8H/T8V		
Descriptions	Reed 2-wire							
	· · · · · · · · · · · · · · · · · · ·							
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 a	1 m: 18 g 3 m: 49 g 5 m: 80 g	1 m: 33 g 3 m: 87 g 5 m: 142 a	1 m: 18 g 3 m: 49 g 5 m: 80 g
Degree of protection			IEC	standards IP67, JIS CO	920 (water)	-tight))		
Ambient temperature		-10 to +60°C						
Withstand voltage	No failure after 1 minute of 1,500 VAC application.	No failure after 1 minute of 1,000 VAC application.						
Insulation resistance		20 $M\Omega$ and over wi	th 500 VDC megger	$100\ \text{M}\Omega$ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger	$20\ \text{M}\Omega$ and over with 500 VDC megger	100 MΩ and over with 500 VDC megger	20 MΩ and over with 500 VDC megger
Shock resistance		980m/s ²						
Lead wire length	cabtyre cable 2-conductor 0.3mm ²)	vinyl cabtyre cable 2-conductor 0.2mm ²)	Vinyl cabtyre cable 2-conductor 0.2mm ²)	Tire cable 2-conductor 0.3mm ²)	cabtyre cable 2-conductor 0.2mm ²)	cable 3-conductor 0.2mm ²)	cabtyre cable 3-conductor 0.3mm ²)	vinyl cabtyre cable 3-conductor 0.2mm ²)
	1 m (oil resistant vinyl	1 m (oil resistant	3 m (elasticity, oil resistance	1 m (oil resistant vinyl cab	1 m (oil resistant vinyl	1 m (oil resistant vinyl cabtyre		1 m (oil resistant

Descriptions	Reed 2-wire									
Descriptions	T0H/T0V		T5H	T8H/T8V						
Applications	For programmab	le controller, relay	For programmable control indicator lamp),	ler, relay, IC circuit (without 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	3 V or less									
drop	(at load current 30	OmA 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	OmA									
Lead wire length	1 m (0	oil resistant viny	/l cabtyre cable 2-cond	uctor 0.2mm ²)	1 m (oil resistant vi	nyl cabtyre cable 2-	-conductor 0.3mm ²)			
Shock resistance				294m/s ²						
Insulation resistance		20 MΩ and	over with 500 VDC me	gger	100 $M\Omega$ 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: 33	g 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.

CKD

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