Cylinder switch guide



CONTENTS

Cylinder switch variation table	Ending 2
Cylinder with switch variation table	Ending 4
▲Safety precautions	Intro 71
Proximity cylinder switch with 2-color LED	Ending 8
Strong magnetic field proof cylinder switch	Ending 9
M Series	Ending 12
R Series	Ending 14
• T Series	Ending 16
K Series	Ending 20
F Series	Ending 22
H Series	Ending 24
• V Series	Ending 25
• E Series	Ending 26
Contact protecting circuit box	Ending 27
Cylinder switch with connector	Ending28
Series option	Ending 30
Operational principle, switch installation position	Ending 31
Operating range and hysteresis of each cylinder with switch	Ending 32
Relocation of switch	Ending 42
How to install the product to terminal box	Ending 44
Selection chart	Ending 45
Troubleshooting	Ending 46

The cylinder switches T2YH, T2YV, T3YH, and T3YV are scheduled for end of production at the end of December 2023.

Ending

Discrete switch model No.

Model No. of discrete switch unit is as below.

SW)-(Switch model No.)

Axial lead wire (H) direction and L-shaped lead wire (V) direction are available.

Cylinder switch variation

CKD cylinders with switches cover wide applications with miniature to large cylinders and rotary actuators. Refer to the variation table below to select the ideal product.

													Pr	ох	im	ity	s SI	wit	ch														
	I Se					Ser								Se					K Series F Series L L <tr< th=""><th></th><th>Descriptions</th></tr<>				Descriptions										
M2	M2WV	M3	M3WV	٣	R2	R2Y	R3	R3Y	۲	T2	T2J	Т2Ү	T2W	T2YL	13	T3P	Т3Ү	T3W	ТЗҮL	T2YD	Š	K2Y	ŝ	KЗР	КЗҮ	F2	F2Y	F2S	£	F3Y	F3P	F3S	
•																											•						Grommet
				•	•	•	•	•																									Terminal box
•	•			•	•	•			•	•	•	•	•	•						•	•	•				•	•	•					2-wire
		•	•				•	•							•	•	•	•	•				•	•	•				•	•	•	•	3-wire
•	• *1	•	• *1	•	•	• *1	•	• *1	•	•	•	• *1	• *1	• *1	•	• *2	• *1	• *1	• *1	• *1	•	• *1	•	• *2	• *1	• *2	• *1	•	• *2	• *1	• *1	•	LED (Lit when ON)
																																	Neon light (Lit when OFF)
																																	No indicator lamp
	•		•			•		•				•	•	•			•	•	•	•		•			•		•			•			2-color LED
		•					•	•																									5 VDC
•	•				•	•				•	•	•	•	•						•	•	•				•	•	•					10 VDC to 30 VDC
		•	•				•	•							•	•	•	•	•				•	•	•				•	•	•	•	30 VDC or less
				•					•																								100 VAC
				•					•																								200 VAC
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	Programmable controller
		•	•	•			•	•									•	•	•				•	•	•				•	•	•	•	IC circuit
		•	•	•			•		•								•	•	•				•	•	•				•	•	•	•	Compact relay, valve
																																	Large relay, valve

*1: LEDs are red/green.
*2: LEDs are yellow.
*3: LEDs are green.
*4: LEDs other than those in *1 to *3 are red.



Series variation

								R	eed	d sv	vitc	:h						
Descriptions			N ries	R	R Se	erie	s	s	T erie	es	ł Ser	< ries	F Series	⊦ Ser	ł ies	E Ser	: ies	V Series
		МO	M5	R0	R4	R5	R6	T0	Т5								ET0	
Connection	Grommet	•	•	•	•	•	•	•	•	•	•	•	•	•			•	
Connection	Terminal box			•	•	•	•									•		
Number of connections	2-wire	•	•	•	•	•	•	•	•	•	•		•	•		•	•	
	3-wire																	
	LED (Lit when ON)	•		•			•	•		•	•		• *2	• *3	• *1	•	• *2	
	Neon light (Lit when OFF)				•													
With indicator lamp	No indicator lamp		•			•			•			•						
-	2-color LED																	
	5 VDC		•			•			•			•						
-	10 VDC to 30 VDC														•			
Working voltage	30 VDC or less	•	•	•		•	•	•	•	•	•	•	•	•		•	•	
-	100 VAC	•	•	•	•	•		•	•	•	•	•		•		•	•	
-	200 VAC			•	•	•				•						•		
	Programmable controller	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•
Amerikanska	IC circuit		•			•			•			•						
Applications -	Compact relay, valve	•	•	•		•		•	•	•	•	•		•		•		•
	Large relay, valve				•													

Cylinder with switch variations

CKD cylinders with switches cover wide applications with miniature to large cylinders and rotary actuators. Refer to the variation table below to select the ideal product.

														Pro		mit																		
				ies					Se					Ser									erie								Ser			
F2	F2Y	F2S	F3	F3Y	F3P	F3S	M2	M2WV	M3	M3P	M3WV	7	R2	R2Y	R3	RЗY	Ŧ	T2	T2J	T2W	Т2Ү	T2YL	Т3	ТЗР	T3W	ТЗҮ	ТЗҮL	T2YD	R Z	K2Y	ŝ	K3P	K3V	КЗҮ
																		•		•			•	•	•									
																	•	•	•	•	•		•	•		•								
																	•	•	•	•	•		•	•		•								
																	•	•	•	•	•		•	•	•	•		•						
																	•		•	•	•		•	•	•									
																	•	•	•	•	•		•	•	•									
																	•	•	•	•	•		•	•	•									
																	•	•	•	•	•		•	•	•	•								
																	•	•	•	•	•		•	•	•	•								
									Γ								•	•	•	•	•		•	•	•	•								
•	• *7	• *7	• *7	• *7	• *7	•			Γ								• *3	•	•	•	•		•	•	•	•								
•	• *7	•	•	• *7	•	• *7											• *3	•	•	•	•		•	•	•			•						
															F		• *6	•	• *6	•	• *6		•	•	•	• *6		• *3						
•	•	•	•	•	•	•			F																									
•	•	•	•	•	•	•			F																									
																													•	•	•			
•	•	•	•	•	•	•									F																			
•	•	•	•	•	•	•									F																			
							• *8		*8	*8																								
										0							•	•	•		•		•	•	•									
							•		*8	*8					F				F															
							0		0	8							•	•	•	•	•		•	•	•									
	-						\vdash		┢						⊢		•	•	•		•		•	•	•		\vdash		\vdash					
															\vdash			•	•		•			•	•		\vdash							
															-		•	•	•	•	•		•	•	•		-							
									-						\vdash		_	•	•	•	•			•	•			•						
									-						\vdash			•	•	•	•		-	•	•			•						
							-								-		•		•	•	•		•	•	•		\vdash	•						
	<u> </u>						•						-		\vdash										F		\vdash		-		-			
							*8		*8	*8	-				╞				•					•			\vdash		-		-			
*4.		dina		de-to																			-	-		-		_						

*1: Including made-to-order products

*2: ▲ is mountable depending on variation. H type (L2), Coolant proof (G2/G3), etc. *3: Excluding ø16 or less

*4: Excluding ø12, ø16, position locking all bore sizes *5: Excluding ø40 or less
*6: ø12 and ø16 of standard, X, Y, O, F, B, W and M are L1

Cylinder with switch variation table

| Cylinder mod | lel | Bore size | | | | | | |

 | | | |
 | | |
 | | | |
 | | |
|------------------------|--|---|--|--|--|---|--|---
--

---|---|---|--|--|---
--
--|---|--|--
---|--|
| il changed as the day | | | | q | | Compatibility with body | N
Ser | | R

 | Se | erie | es | Se
 | T
eri | es | ł
Ser
 | (
ies | F Series | ⊦
Ser | l
ies
 | E
Seri | |
| il also and and in the | | | Band | Tie rod | Rail | | Q | M5 | R0

 | R4 | R5 | R6 | T0
 | T5 | T8 | 8
8
 | K5 | Б0 | РH | ΥοΥ
 | е
Ш | ET0 |
| cil shaped cylinder | SCP*3 | ø6 to ø16 | | | | | | |

 | | | | •
 | • | | | | | | | | |
 | | | |
 | | |
| ium bore size
der | CMK2 | ø20 to ø40 | | | | Magnet provided
as standard | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| ium bore size
der | CMA2 | ø20 to ø40 | | | | Magnet provided
as standard | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| nd shaped
der | SCM | ø20 to ø100 | | | • | Magnet provided
as standard | | |

 | | | | •
 | • | •
*5 | | | | | | | |
 | | | |
 | | |
| al cylinder | SCG | ø40 to ø100 | | • | | Magnet provided
as standard | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| ium bore size | SCA2 | ø40 to ø100 | | • | | | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| e bore size | SCA2-V | ø40 to ø100 | | • | | | | |

 | | | | •
 | • | | | | | | | | |
 | | | |
 | | |
| e bore size | SCS2 | ø125 to ø250 | | • | | | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| ll outindor with | CKV2 | ø20 to ø40 | • | | | | | |

 | | | | •
 | | • | |
 | | | |
 | | |
| | CAV2 | ø50 to ø100 | | • | | Magnet provided | | | _

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| pact | SSD2 | ø12 to ø200 | | | • | as standard | | |

 | | | | •
 | | •9 | | | | | | | |
 | | | |
 | | |
| ed super | SSG | ø12 to ø100 | | | • | | | |

 | | | | •
 | | | | | | | | | |
 | | | |
 | | |
| pact | SSD | ø12 to ø160 | | | • | | | |

 | | | | •
 | • | *9 | | | | | | | |
 | | | |
 | | |
| | MDC2 | ø4 to ø10 | | | • | | | |

 | | | | | | | | | |
 | | |
 | | • | |
 | | |
| Il cylinder | I | ø6, ø10 | | | • | | | |

 | | | | | | | | | |
 | | |
 | | • | |
 | | |
| pact | SMG | ø6 to ø32 | | | • | us standard | | |

 | | | | | | | | | |
 | | |
 | • | | |
 | | |
| | MSD | ø6 to ø16 | | | • | | | |

 | | | | | | | | | |
 | | |
 | | • | |
 | | |
| Il guided | MSDG | ø6 to ø16 | | | • | | | |

 | | | | | | | | | |
 | | |
 | | • | |
 | | |
| compact | FC* | ø25 to ø63 | | | • | | *8 | *8 |

 | | | | | | | | | |
 | | |
 | | | |
 | | |
| | STK | ø20 to ø50 | | | • | | 0 | 0 |

 | | | | •
 | | • | | | | | | | |
 | | | |
 | | |
| e cylinder | ULKP | ø16 | | | | us standard | • | • |

 | | | | | | | | | |
 | | |
 | | | |
 | | |
| e cylinder | ULK | ø20 to ø40 | • | | | | | - |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| e cylinder | JSK2 | ø20 to ø40 | • | | | Magnet provided | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| e cylinder | JSM2 | ø20 to ø40 | • | | | Magnet provided | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| od
der with brake | JSG | ø40 to ø100 | | • | | Magnet provided | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| e cylinder | JSC3 | ø40 to ø100 | | • | | Magnet provided | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | | |
| e cylinder | JSC4 | ø125 to ø180 | | • | | | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | + | |
| tion locking | USSD | ø40 to ø63 | | | • | | | |

 | | | | •
 | • | • | | | | | | | |
 | | | |
 | - | |
| position locking | UFCD | ø25 to ø63 | | | • | | • | • |

 | | | | | | | | | |
 | | \square |
 | | | |
 | \neg | |
| position locking | USC | ø40 to ø100 | | • | | | υ | 0 |

 | | | | •
 | | | | | | | | | | | | | | | | | | | | | | | |
 | | | |
 | \neg | |
| | ad cylinder
um bore size
der
e bore size
der with valve
e bore size
der
Il cylinder with
der with valve
pact
der
ed super
pact cylinder
pact cylinder
Il cylinder
suction pad
pact
der
Il cylinder
suction pad
pact cylinder
li guided
pact cylinder
e cylinder
bore size
cion locking
pacit cylinder
position locking
ylinder
position locking | od cylinderSCGum bore size
derSCA2e bore size
der with valveSCA2-Ve bore size
derSCS2II cylinder with
oderCKV2oder with valveCAV2
COV2pact
derSSD2ed super
pact
derSSGpact
derSSDII
t mounting cylinderMDC2II cylinder
suction padMVCpact
derSMGII
pact derMSDII
coact cylinderMSDGpact
derSMGII
pact derMSDGpact cylinderMSDGpact cylinderSTKe cylinderJSK2e cylinderJSK2e cylinderJSC3e cylinderJSC3e cylinder
bore sizeJSC4ion locking
bore sizeULSDposition locking
position lockingUFCD | bd cylinderSCGØ40 to Ø100um bore size
derSCA2Ø40 to Ø100e bore size
der with valveSCA2-VØ40 to Ø100e bore size
derSCS2Ø125 to Ø250II cylinder with
oderCKV2Ø20 to Ø40der with valveCAV2
COV2Ø50 to Ø100pact
derSSD2Ø12 to Ø200ed super
oact cylinderSSGØ12 to Ø100pact
derSSDØ12 to Ø100pact
derSSDØ12 to Ø100pact
derSSDØ12 to Ø100pact
derSSDØ12 to Ø100pact
derSSDØ12 to Ø160II cylinder
suction padMVCØ6 to Ø32II cylinder
suction padMSDØ6 to Ø16I guided
oact cylinderMSDGØ6 to Ø16I guided
oact cylinderSTKØ20 to Ø40e cylinderULKPØ16e cylinderJSK2Ø20 to Ø40e cylinderJSGØ40 to Ø100e cylinderJSC3Ø40 to Ø100e cylinderJSC4Ø125 to Ø180od
od
der with brakeJSCØ40 to Ø100e cylinderUSSDØ40 to Ø63position locking
position lockingUFCDØ25 to Ø63position locking
position lockingUFCDØ40 to Ø63 | bd cylinderSCGØ40 to Ø100um bore size
derSCA2Ø40 to Ø100e bore size
der with valveSCA2-VØ40 to Ø100e bore size
derSCS2Ø125 to Ø250II cylinder with
ofCKV2Ø20 to Ø40•oder with valveCAV2
COV2Ø50 to Ø100•pact
derSSD2Ø12 to Ø200•ed super
pact
derSSGØ12 to Ø100•pact
derSSDØ12 to Ø100•pact
derSSDØ12 to Ø100•pact
derSSDØ12 to Ø100•pact
derSSDØ12 to Ø100•pact
derSSDØ12 to Ø100•gattMDC2Ø4 to Ø10•II cylinder
suction pad
pact
derMVCØ6 to Ø16II guided
oact cylinderMSDGØ6 to Ø16II guided
oact cylinderMSDGØ6 to Ø16II guided
oact cylinderSTKØ20 to Ø40e cylinderULKPØ16•e cylinderJSK2Ø20 to Ø40•e cylinderJSGØ40 to Ø100•e cylinder
um bore sizeJSC3Ø40 to Ø100•e cylinder
of on ocking
position lockingUSSDØ40 to Ø63position locking
position lockingUSCDØ40 to Ø63position locking
position lockingUSCDØ40 to Ø63 | bd cylinderSCG940 to 9100•um bore size
derSCA2ø40 to ø100•e bore size
der with valveSCA2-Vø40 to ø100•e bore size
derSCS2ø125 to ø250•Il cylinder with
oderCKV2ø20 to ø40•der with valveCAV2
COV2ø50 to ø100•pact
derSSD2ø12 to ø200•ed super
pact
derSSGø12 to ø100•pact
derSSDø12 to ø100•pact
derSSDø12 to ø100•pact
derSSDø12 to ø100•pact
derSSDø12 to ø100•pact
derSSDø12 to ø160•Il cylinder
suction pad
pact
derMVCø6 to ø16•Il guided
pact cylinderMSDø6 to ø16•Il guided
pact cylinderMSDGø6 to ø16•Il guided
per cylinderSTKø20 to ø40•e cylinderJSK2ø20 to ø40•e cylinderJSGø40 to ø100•e cylinderJSGø40 to ø100•e cylinder
um bore sizeJSC4ø125 to ø180•position locking
position lockingUSCDø40 to ø63•position locking
up lockingUSCDø40 to ø63•position lockingUSCDø40 to ø63• | bd cylinderSCGØ40 to Ø100Image: SCA2um bore sizeSCA2Ø40 to Ø100Image: SCA2-Vder with valveSCA2-VØ40 to Ø100Image: SCA2-Ve bore sizeSCS2Ø125 to Ø250Image: SCA2-Vder with valveCKV2Ø20 to Ø40Image: SCA2-Vder with valveCKV2Ø50 to Ø100Image: SCA2-Vder with valveCAV2Ø50 to Ø100Image: SCA2-Vder with valveCAV2Ø50 to Ø100Image: SCA2-VoderSSD2Ø12 to Ø200Image: SCA2-Ved superSSD2Ø12 to Ø100Image: SCA2-VpactSSD2Ø12 to Ø100Image: SCA2-Ved superSSGØ12 to Ø100Image: SCA2-Voact cylinderMDC2Ø4 to Ø10Image: SCA2-VIl cylinderMDC2Ø4 to Ø10Image: SCA2-VIl cylinderMSDØ6 to Ø16Image: SCA2-VIl guidedMSDGØ6 to Ø16Image: SCA2-Voact cylinderSTKØ20 to Ø40Image: SCA2-VIl guidedMSDGØ20 to Ø40Image: SCA2-Voact cylinderSTKØ20 to Ø40Image: SCA2-Ve cylinderJSK2Ø20 to Ø40Image: SCA2-Vod der with brakeJSGØ40 to Ø100Image: SCA2-Ve cylinderJSC3Ø40 to Ø100Image: SCA2-Vod der with brakeJSC4Ø125 to Ø63Image: SCA2-Vion lockingUSCDØ40 to Ø63Image: SCA2-Vposition locking | bd cylinder SCG Ø40 to Ø100 as standard Magnet provided as standard Be bore size SCA2 Ø40 to Ø100 Magnet provided as standard Be bore size SCS2 Ø125 to Ø250 Magnet provided as standard Il cylinder with CKV2 Ø20 to Ø40 Magnet provided as standard der SCS2 Ø125 to Ø250 Magnet provided as standard der SCS2 Ø12 to Ø200 Magnet provided as standard der SSD2 Ø12 to Ø200 Magnet provided as standard gast GAV2 Ø50 to Ø100 Magnet provided as standard gast GAV2 Ø50 to Ø100 gast GAV2 Ø40 to Ø10 gast GAV Ø6 to Ø32 gast MSD Ø6 to Ø16 | bdd cylinder SCG Ø40 to Ø100 as standard < | add cylinder SCG #40 to #100 as standard magnet provided
as standard as standard<td>add cylinder SCG #40 to #100 as standard <</td><td>add cylinder SCG Ø40 to Ø100 as standard as box standard as standard</td><td>add cylinderSCS040 to $0100$$\bullet$as standard$\bullet$$\bullet$um bore sizeSCA2$\phi40$ to $\phi100$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSCA2-V$\phi40$ to $\phi100$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSCA2-V$\phi40$ to $\phi100$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSCS2$\phi125$ to $\phi250$$\bullet$$\bullet$$\bullet$$\bullet$$\bullet$ab ore sizeSCS2$\phi125$ to $\phi200$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSCS2$\phi12$ to $\phi200$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSCS2$\phi12$ to $\phi200$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSSD2$\phi12$ to $\phi100$$\bullet$Magnet provided
as standard$\bullet$$\bullet$pactSSD$\phi12$ to $\phi100$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSSD$\phi12$ to $\phi100$$\bullet$Magnet provided
as standard$\bullet$$\bullet$ab ore sizeSMG$\phi6$ to $\sigma16$$\bullet$$\bullet$$\bullet$<</br></td><td>ad cylinder SCS a40 to a100 as standard as standard um bore size SCA2 a40 to a100 as standard as standard a bore size SCA2-V a40 to a100 Magnet provided
as standard as standard a bore size SCS2 a125 to a250 Magnet provided
as standard as standard a bore size SCS2 a125 to a250 Magnet provided
as standard as standard a bore size SCS2 a50 to a100 Magnet provided
as standard as standard a bore size SCS2 a50 to a100 Magnet provided
as standard as standard a constructure CAV2 a50 to a100 Magnet provided
as standard as standard a constructure SSD2 a12 to a200 as standard as standard a constructure SSD a12 to a100 as standard as standard a constructure SSD a12 to a100 as standard as standard a constructure MVC a6 to a16 as standard as standard a constructure MSD a6 to a16 as standard as standard</td><td>ad cylinder SCG Ø40 to Ø100 as standard as standard um bore size SCA2 ø40 to ø100 Magnet provided
as standard as standard e bore size SCS2 ø125 to ø250 Magnet provided
as standard as standard e bore size SCS2 ø125 to ø250 Magnet provided
as standard as standard ider with valve CKV2 ø20 to ø40 Magnet provided
as standard as standard ider with valve CAV2 ø50 to ø100 Magnet provided
as standard as standard ider SSD2 ø12 to ø100 Magnet provided
as standard as standard ider SSD ø12 to ø160 ider ider ider It mounting cylinder SSD ø12 to ø160 ider ider ider It cylinder MSD ø6 to ø32 ider ider ider ider It cylinder SMG ø6 to ø16 ider ider ider ider ider It cylinder MSD ø6 to ø16 ider ider ider ider ider ider ider</td><td>add cylinder SCG 040 to 0100 Magnet provided
as standard Magnet provided Magne</td><td>ad cylinder SCG #40 to 9100 as standard <l< td=""><td>ad cylinder add to a 100 add to a 100 add to a 100 Magnet provided
as standard add to a 100 <</td><td>ad cylinder BCGS adv to \$100 a standard a standard um bore size
der SCA2 \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCS2. \$212 to \$200 a standard a standard ab or or</td><td>Dd cylinder SCG ØHO to 0100 Image provided
as standard Image provided
as standard be hore size
der with valve SCA2 ø40 to ø100 Magnet provided
as standard Image provided
as standa</td><td>od cylinder SCG 040 to 0100 as standard <l< td=""><td>ad cylinder SCG Ø40 to Ø100 is standard <l< td=""><td>ad cylinder SCA2 Ø40 to 0 100 Magnet provided
as standard Magnet provided Magnet provided
as standard Magnet provided Magnet provided</td></l<></td></l<></td></l<></td> | add cylinder SCG #40 to #100 as standard < | add cylinder SCG Ø40 to Ø100 as standard as box standard as standard | add cylinderSCS 040 to 0100 \bullet as standard \bullet \bullet um bore sizeSCA2 $\phi40$ to $\phi100$ \bullet Magnet provided
as standard \bullet \bullet ab ore sizeSCA2-V $\phi40$ to $\phi100$ \bullet Magnet provided
as standard \bullet \bullet ab ore sizeSCA2-V $\phi40$ to $\phi100$ \bullet Magnet provided
as standard \bullet \bullet ab ore sizeSCS2 $\phi125$ to $\phi250$ \bullet \bullet \bullet \bullet \bullet ab ore sizeSCS2 $\phi125$ to $\phi200$ \bullet Magnet provided
 | ad cylinder SCS a40 to a100 as standard as standard um bore size SCA2 a40 to a100 as standard as standard a bore size SCA2-V a40 to a100 Magnet provided
as standard as standard a bore size SCS2 a125 to a250 Magnet provided
as standard as standard a bore size SCS2 a125 to a250 Magnet provided
as standard as standard a bore size SCS2 a50 to a100 Magnet provided
as standard as standard a bore size SCS2 a50 to a100 Magnet provided
as standard as standard a constructure CAV2 a50 to a100 Magnet provided
as standard as standard a constructure SSD2 a12 to a200 as standard as standard a constructure SSD a12 to a100 as standard as standard a constructure SSD a12 to a100 as standard as standard a constructure MVC a6 to a16 as standard as standard a constructure MSD a6 to a16 as standard as standard | ad cylinder SCG Ø40 to Ø100 as standard as standard um bore size SCA2 ø40 to ø100 Magnet provided
as standard as standard e bore size SCS2 ø125 to ø250 Magnet provided
as standard as standard e bore size SCS2 ø125 to ø250 Magnet provided
as standard as standard ider with valve CKV2 ø20 to ø40 Magnet provided
as standard as standard ider with valve CAV2 ø50 to ø100 Magnet provided
as standard as standard ider SSD2 ø12 to ø100 Magnet provided
as standard as standard ider SSD ø12 to ø160 ider ider ider It mounting cylinder SSD ø12 to ø160 ider ider ider It cylinder MSD ø6 to ø32 ider ider ider ider It cylinder SMG ø6 to ø16 ider ider ider ider ider It cylinder MSD ø6 to ø16 ider ider ider ider ider ider ider | add cylinder SCG 040 to 0100 Magnet provided
as standard Magnet provided Magne | ad cylinder SCG #40 to 9100 as standard <l< td=""><td>ad cylinder add to a 100 add to a 100 add to a 100 Magnet provided
as standard add to a 100 <</td><td>ad cylinder BCGS adv to \$100 a standard a standard um bore size
der SCA2 \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCS2. \$212 to \$200 a standard a standard ab or or</td><td>Dd cylinder SCG ØHO to 0100 Image provided
as standard Image provided
as standard be hore size
der with valve SCA2 ø40 to ø100 Magnet provided
as standard Image provided
as standa</td><td>od cylinder SCG 040 to 0100 as standard <l< td=""><td>ad cylinder SCG Ø40 to Ø100 is standard <l< td=""><td>ad cylinder SCA2 Ø40 to 0 100 Magnet provided
as standard Magnet provided Magnet provided
as standard Magnet provided Magnet provided</td></l<></td></l<></td></l<> | ad cylinder add to a 100 add to a 100 add to a 100 Magnet provided
as standard add to a 100 < | ad cylinder BCGS adv to \$100 a standard a standard um bore size
der SCA2 \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCA2. \$40 to \$000 Magnet provided
as standard a standard ab ore size
der SCS2. \$212 to \$200 a standard a standard ab or | Dd cylinder SCG ØHO to 0100 Image provided
as standard Image provided
as standard be hore size
der with valve SCA2 ø40 to ø100 Magnet provided
as standard Image provided
as standa | od cylinder SCG 040 to 0100 as standard <l< td=""><td>ad cylinder SCG Ø40 to Ø100 is standard <l< td=""><td>ad cylinder SCA2 Ø40 to 0 100 Magnet provided
as standard Magnet provided Magnet provided
as standard Magnet provided Magnet provided</td></l<></td></l<> | ad cylinder SCG Ø40 to Ø100 is standard <l< td=""><td>ad cylinder SCA2 Ø40 to 0 100 Magnet provided
as standard Magnet provided Magnet provided
as standard Magnet provided Magnet provided</td></l<> | ad cylinder SCA2 Ø40 to 0 100 Magnet provided
as standard Magnet provided Magnet provided
as standard Magnet provided Magnet provided |

*7: Mountable for ø20 and ø25 of SSD2. Mountable for ø25 of SSG
*8: Only V type (L-shaped lead wire) mountable
*9: Excluding ø12 to ø32 of L, XL, YL, OL, LF, BL, WL, ML, ø12 and ø16 of KL, DL, and ø16 of QL

*10: Excluding ø32 or less

														Pro	oxi	mi	ty s	swi	itcł	1													
		F٤	Ser	ies				M	Sei	rie	s		R	Sei	ries	5					т	Se	erie	s						KS	Ser	ies	5
F2	F2Y	F2S	E	F3Y	F3P	F3S	M2	M2WV	M3	M3P	M3WV	R1	R2	R2Y	R3	R3Y	11	T2	T2J	Т2Ү	T2W	T2YL	T3	ТЗР	ТЗҮ	T3W	ТЗҮL	T2YD	K2	K2Y	¥3	K3P	K3Y
• *10	• *10	• *10	• *10	• *10		• *10												• *11			• *11		• *11			• *11							
*10	• *10	• *10	• *10	• *10	• *10	• *10												• *11			• *11			• *11		• *11							
• *10												• *11			• *11		• *11	• *11		• *11													
																					•					•							
•	•	•		•	•	•																											
	•	•	•	•	•	•																											
																	•		•				•	•									
																	•		•				•										
																													•		•	•	•
																							•										
																			•		•		•			•							
							•		•												•												
							•		•												•												
																					•					•		•					
							•														•				•								
													-							•	•		•		•	•			\vdash		\vdash		-
																	•	•	•		•		•	•	•	•			\vdash		\vdash		-
									-				-					_	-	•			<u> </u>	•	•	-							-
									-		-		-		-		•		•	•	•		•		•	•		•	\vdash		\vdash	\vdash	-
	\vdash								\vdash		-		\vdash		\vdash		•				•		•				\vdash	•	-		-		-
_													-								-		-					-					
•													-		┝		•						•				-	•	-		-		
*7	*7	*7	• *7	*7	*7	*7											*3		*3	*3	•		•		*3			*2					
												-	_		_			•	*3	*3	•		•		*3	•		*3					
													-		•																		
												•	•	•	•	•																	
																	•	•	•	•	•		•		•	•							
												•	•		•																		
																	•	•	•	•	•		•	•	•	•							
																	•	•	•	•	•		•	•		•							
							• *8		• *8	• *8																							

*1: Including made-to-order products
*2: ▲ is mountable depending on variation. H type (L2), Coolant proof (G2/G3), etc.
*3: Excluding ø16 or less

*4: Excluding ø12, ø16, position locking all bore sizes
*5: Excluding ø40 or less
*6: ø12 and ø16 of standard, X, Y, O, F, B, W and M are L1

Cylinder with switch variation table

				unt eth	_							F	lee	d	SW	itc	h					
Cylinder mod	lel	Bore size				Compatibility with body	N Ser		R	Se	erie	es	Se	T erie	es	ł Ser	('ies	- Series	H Ser	l ies	E Seri	
			Band	Tie rod	Rail		MO	M5	R0	R4	R5	R6				K0			P	НΟΥ	EO	ET0
Linear slide cylinder	LCW	ø12 to ø20				Magnet provided as standard							• *11	• *11								
Linear slide cylinder	LCR	ø6 to ø25			ullet	Magnet provided as standard							• *11	• *11								
Linear slide cylinder	LCG	ø6 to ø25			ullet	Magnet provided as standard							• *11	• 11								
Thin linear slide cylinder	LCX	ø25,ø32				Magnet provided as standard																
	LCM	ø4.5 to ø8			•																	
Guided cylinder	STM	ø6 to ø10			•	Magnet provided as standard																
 Global cylinder Guided cylinder	STG	ø12 to ø80			•	Magnet provided as standard							•	•	• *4							
 Guided cylinder	STS/L	ø8 to ø100				Magnet provided as standard								•	• *3							
Twin rod cylinder	STR2	ø6 to ø32			•	Magnet provided as standard											•					
 Unit cylinder	UCA2	ø10 to ø32			•								•	•								
 High energy absorption cylinder	НСМ	ø20 to ø63			•	Magnet provided as standard									•							
High speed cylinder	HCA	ø20 to ø100	•			Magnet provided as standard			•		•											
Rodless cylinder	SRL3	ø10 to ø100				Magnet provided as standard	•															
 I finds to the second state of the second state of the	SRG3	ø12 to ø25				as stariuaru	•															_
 	SRM3	ø25 to ø40, 63													•							
	SRT3	ø32 to ø63			•	Magnet provided as standard																
Magnaturallaga	MRL2	ø6 to ø20				as stariuaru																
 	MRG2	ø10 to ø25			•	Magnet provided as standard																
 with high precision guide	CAC4	ø40 to ø80		•		Magnet provided as standard								•	•							_
 Position locking clamp cylinder	UCAC2	ø50, ø63		•		Magnet provided as standard							•	•	•							_
 Lightweight clamp	CAC-N	ø32,ø40		•		Magnet provided									•							_
cylinder Position locking clamp cylinder	UCAC-N	ø50,ø63		•		as standard Magnet provided as standard									•							
	RCS2	ø12 to ø63				Magnet provided as standard									•12							
 Rotary clamp cylinder	RCC2	ø16 to ø63				Magnet provided as standard								•	12							_
 Robot cylinder	MFC	ø30 to ø80		•		23 512110210			•	•	•	•										
 High power cylinder	SHC	ø40 to ø100		•		Magnet provided as standard	_			•	•	•										
	МСР	For actual thrust 2 t, 5 t		•		Magnet provided as standard								•	•				+		+	
	GLC	ø40 to ø100		•		Magnet provided as standard				•		•									+	
 Rotary actuator	RRC	Size: 8, 32, 63				Magnet provided as standard									•							
Table rotary actuator	GRC	Size: 5 to 80			•	Magnet provided as standard																
 2	RV3*	Size: 50 to 300					•	•														
 Hand-chuck		Hand : Cylinders II P78 Chuck: Cylinders II P95				Reference		0														

*7: Mountable for ø20 and ø25.
*8: Only V type (L-shaped lead wire) mountable
*9: Excluding ø12 to ø32 of L, XL, YL, OL, LF, BL, WL, ML, ø12 and ø16 of KL, DL, and ø16 of QL

*10: Excluding ø16 and over *11: Excluding ø12 or less *12: Excluding ø12 and ø16

2-color LED proximity cylinder switch



Overview

Conventionally, the pneumatic cylinder position detection switch required installation and adjustment because of the operating range and hysteresis. With the 2-color LED proximity cylinder switch, the optimum installation position is instantly indicated by the green LED lighting at the optimum installation position, and the red LED lighting at the normal operating range. This eliminates the time and hassle required to adjust the switch and prevents setting errors, allowing highreliability equipment to be configured.

Features

• Easy installation and adjustment Since the green LED lights at the optimal installation position, the switch can be installed and adjusted very easily.

High reliability

The switch uses our original hybrid IC integrated magnetic resistance element, making it even more reliable.



Ending 8 CKD

Strong magnetic field proof cylinder switch



Overview

This cylinder switch is used in environments having strong magnetic fields, such as near spot welding machines and magnetizing units in automotive plants, etc.

Features

Easy installation/position adjustment (V0, T2YD)

Uses the rail mounting method. Mountable with a single set screw, and with easy position adjustment.

Heat resistant material

Metal (H0, H0Y) and self-extinguishing resin UL94-V0 (V0, T2YD) body, and flame-resistant lead wires (optional for T2YD) have been adopted. Prevents body and lead wire burning or welding due to spatter.

No polarity (H0, T2YD, H0Y)

Integrated diode bridge eliminates polarity. Eliminates the time required for checking positive and negative polarity, preventing connection errors.

2-color LED for easy installation adjustment (T2YD, H0Y)

Since the green LED lights at the optimal installation position, the switch can be installed and adjusted very easily.

CAUTION



The above external magnetic field resistance properties apply when H0 is installed within the "max. sensitivity position ±1 mm," within the "max. sensitivity position ±1.5 mm" for V0, and within the "optimum installation range" for H0Y. Install switches within this range. Do not apply welding current to flow during movement of the cylinder piston. If 2 or more welding cables are energized simultaneously, the magnetic flux will increase

due to the synergistic effect of the cables. Contact CKD before use. Note that the switch cannot be set within the cable loop.

- *1: Indicates malfunction occurring when the cylinder piston magnet is degaussed by a welding field.
- *2: Malfunction of H0Y indicates output malfunction.
- *3: T2YD is a switch dedicated for AC magnetic field.

When using with the detection stroke set to 30 mm or less, provide the distance in the figure above between the welding cable and switch.



40 [mm]

(3) H type cylinder switch

Magnetic performance near spot welding



Degaussing occurs when an alternating current magnetic field is applied to the magnet. Measures have been taken for the cylinder with H type switch magnet. While degaussing does not occur up to 15,000 A, at over 15,000 A, provide the above distance between the cylinder tube and welding cable surfaces.

MEMO

Application FC* RV3 * SRL3 SRG3 SRT3 UFCD **M** Series Cylinder CE M*V M*H Specifications

Item	2-wire p	proximity		3-wire proximity	
nem	M2V/M2H	M2WV(2-color LED)	M3H/V (NPN output))	M3PH/V (PNP output)	M3WV (2-color LED)
Applications	Dedicated for prog	rammable controller	For programmable con	troller, relay, IC circuit, c	compact solenoid valve
Output method		-	NPN output	PNP output	NPN output
Power supply voltage		-	4.5 to 2	8 VDC	10 to 28 VDC
Load voltage	10 to 3	80 VDC		30 VDC or less	
Load current	5 to 3	30mA		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 c	or less		0.5 V or less	
Indicator	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 cabtyr	e cable 2-conductor 0.2mm ²)	1m (Oil resistant	vinyl cabtyre cable 3-co	nductor 0.15mm ²)
Shock resistance			980m/s ²		
Insulation resistance		100 MΩ	and over with 500 VDC	megger	
Withstand voltage		No failure aft	er 1 minute of 1,000 VAC	C application.	
Ambient temperature			-10 to +60°C		
Degree of protection		IEC stand	ards IP67, JIS C0920 (w	vater tight)	
Weight	1 m: 22 g 3 m	: 57 g 5 m: 93 g	1 m	:22 g 3 m:57 g 5 m:9	93 g

It a set		2-wir	e reed	
Item	MOV	/M0H	M5V/	/M5H
Applications	For programmabl	e controller, relay	For programmable controller, relay, IC cir	cuit (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 30 m	A load current for DC)	0.1V or	less (*4)
Indicator	Red LED (L	it when ON)	No indica	ator lamp
Leakage current		0	mA	
Lead wire length	1 m (oil resistant vinyl cabty	re cable 2-conductor 0.2r	mm²)
Shock resistance		294	m/s ²	
Insulation resistance		100 M Ω and over w	ith 500 VDC megger	
Withstand voltage	Ν	lo failure after 1 minute	of 1,000 VAC application	۱.
Ambient temperature		-10 to	+60°C	
Degree of protection		IEC standards IP67,	JIS C0920 (water tight)	
Contact protection circuit*5		N	one	
Weight		1 m: 22 g 3 m	i: 57 g 5 m: 93 g	

*1: M*H is available for SRL3, SRG3, and SRT3.
*2: Refer to the pages of each cylinder model for switch model No. capable of installing on a cylinder.
*3: Contact CKD separately for cylinder switch with connector.
*4: Internal resistance 0.5 Ω or less.
*5: Refer to Intro Page 80 for contact protective measures.

Ending 12 CKD



Dimensions

M*V Series (L-shaped lead wire)

- M*W Series (2-color LED, L-shaped lead
- M*H Series (straight lead wire)





00

6.2

 \bigcirc



Switch internal circuit diagram





· · · · · · · · · · · · · · · · · · ·	No failure after application				
Ambient temperature			-10 to +60°C		
Degree of protection		Grommet: IEC :	standards IP67, JIS C09	20 (water-tight)	
Option		With te	rminal box R*B (no wate	erproof)	
Weight	1 m: 42 g 3 m: 1	100 g 5 m: 158 g	1 m: 56 g 3 m: 114 g 5 m: 172 g	1 m: 42 g 3 m: 100 g 5 m: 158 g	1 m: 56 g 3 m: 114 g 5 m: 172 g
-	·				

ltom					2-wire	e reed			
Item		R 0		R	4		R 5		R 6
Applications	Relay	, program	mable	For high ca	pacity relay,	For programm	able controller,	relay, IC circuit	Dedicated for programmable
Applications	Fo	or controlle	ers	solenoi	id valve	(no indicat	or lamp), serial	connection	controller (with DC self-hold)
Power supply voltage		-			-		-		-
Load voltage	12/24 VDC	110 VAC	220 VAC	110 VAC	220 VAC	5/12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 50mA	7 to 20mA	7 to 10mA	20 to 200mA	10 to 200mA	50 mA or less	20 mA or less	10 mA or less	5 to 50mA
Current consumption		-			-		-		-
Internal voltage drop	3.	.0 V or les	s	2 V o	r less	0.5	V or less ((*1)	5 V or less
Indicator	Red LE	ED(Lit whe	en ON)	Neon light OFF	(Lit when OFF)		No		Red LED (Lit when ON)
Leakage current		0 mA		1 mA	or less		0 mA		0.1 mA or less
Lead wire length				1 m (oil resist	ant vinyl cabtyr	e cable 2-	conductor	0.3mm ²)	
Shock resistance					294	m/s ²			
Insulation resistance				20 N	IΩ and over wi	th 500 VD	C megger		
Withstand voltage				No failure	after 1 minute	of 1,500 V	AC applic	ation.	
Ambient temperature					-10 to	+60°C			
Degree of protection				Grommet: IE	C standards IF	P67, JIS C	0920 (wat	er-tight)	
Contact protection circuit*2				Ye	es				None
Option				With	n terminal box I	R*B (no wa	aterproof)		
Weight				1	m:42g 3m:	100 g 5 m	: 158 g		
*1: Internal resistance 10	O or less								

*1: Internal resistance 10 Ω or less. *2: Refer to Intro Page 80 for contact protective measures.

Dimensions

R Series (grommet)



R Series (terminal box R*B)

18





Switch internal circuit diagram



40.5 38.5 19





*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: 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 each cylinder page for the details.

*5: Internal resistance 0.5 Ω or less. *6:Refer to Intro Page 80 for contact protective measures.

T Series

Specifications

	Applicatio	CAC4	JSC3	JSC4	JSG	RCC2	RCS2	SCA2	SCG
T Series	AC magnetic field Applicatio	SCM	SCS2	SRG3	SRL3	SRM3	SRT3	SSD	SSD2
	Cylinder	SSG	STG	STS/STL	UCAC2	USC	USSD		

CE



Specifications

l terre	2-wire proximity						
Item	T2YD	T2YDT	T2YDU(Made to order)				
Applications	Dedicated for programmable controller						
Indicator		Red/green LED (Lit when ON)					
Load voltage		24 VDC ±10%					
Load current		5 to 20mA					
Internal voltage drop		6 V or less					
Leakage current		1.0 mA or less					
Output delay time *1 (ON delay, OFF delay)	60 ms or less						
Lead wire length	1 m (oil resistant vinyl cabtyre cable ø6, 0.5 mm ² x 2-conductor) *2 1 m (flame-resistant vinyl cabtyre cable 0.3 m (flame-resistant vinyl ca cable connector, AWG2						
Insulation resistance		100 M Ω and over with 500 VDC megge	r				
Withstand voltage	No fa	ailure after 1 minute of 1,000 VAC applic	ation.				
Shock resistance		980 m/s ²					
Ambient temperature	-10 to +60°C						
Degree of protection	JIS C0920 (water-tight), IEC standards IP67						
Weight	1 m: 61 g 3 m:	166 g 5 m: 272 g	35				

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2: 3 m and 5 m lead wires are available as options.

3: The AC magnetic field proof switch (T2YD) is for AC welding machines, so the effect of strong magnetic field proof performance cannot be obtained with DC welding machines.

T Series	Cutting oil	Application cylinder	CMK2-G2/3 SSD-G2/3	HRL-G2/3 SSD2-G2/3	SCA2-G2/3 STG-G2/3	SCG-G2/3 STS/STL-G2/3	
					CE		
Specifications	5		2	T*YLH			

Specifications

ltom	2-wire proximity	3-wire proximity	
Item	T2YLH, T2YLV	T3YLH, T3YLV	
Applications	Dedicated for programmable controller	Programmable controller, relay	-
Output method	-	NPN output	tch
Power supply voltage	-	10 to 28 VDC	switch
Load voltage	10 to 30 VDC	30 VDC or less	5
Load current	5 to 20mA	50 mA or less	ylinde
Current consumption	-	10 mA or less at 24 VDC (when ON)	S S
Internal voltage drop	4 V or less	0.5 V or less	
Leakage current	1 mA or less	10 µA or less	
Indicator	Red/green LED	(Lit when ON)	-
Lead wire	Oil resistant vinyl cabtyre cable 0.3mm ² , 2 conductor 1 m	Oil resistant vinyl cabtyre cable 0.2mm ² , 3 conductor 1 m	
Insulation resistance	100 MΩ and over w	th 500 VDC megger	-
Withstand voltage	No failure after 1 minute	of 1,000 VAC application.	-
Shock resistance	980	m/s ²	-
Hysteresis	1.5 mm	or less	-
Ambient temperature	-10 to	+60°C	-
Degree of protection	IEC Standards IP67, JIS C0920 (water-	tight), oil resistance (substrate coating)	
Weight	1 m: 33a 3 m:	87g 5 m: 142g	Enc

Dimensions



T2YD (switch for AC magnetic field)





T2YDU (switch for AC magnetic field with M12 cable connector)





Dimensions



Switch internal circuit diagram



K Series



Specifications

ltom	2-wire p	roximity	3-wire proximity			
Item	K2H/K2V	K2YH/K2YV	K3H/V (NPN output)	K3PH/V (PNP output)	K3YH/V (2-color LED)	
Applications	Dedicated for progr	ammable controller	For p	For programmable controller, relay		
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 VDC	10 mA or less with 24 VDC		
Internal voltage drop	4 V o	r less	0.5 V or less			
Indicator	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		
Lood wire longth	1 m (oil resistant vinyl cabtyre	1 m (oil resistant vinyl cabtyre	1 m (oil resistant vinyl c	abtyre cable 3-conduc-	1 m (oil resistant vinyl cabtyre	
Lead wire length	cable 2-conductor 0.2mm ²)	cable 2-conductor 0.3mm ²)	tor 0.2mm ²)		cable 3-conductor 0.2mm ²)	
Shock resistance			980m/s ²			
Insulation resistance	20 $\text{M}\Omega$ and over with 500 VDC megger	100 $\ensuremath{\text{M}\Omega}$ and over with 500 VDC megger	20 MΩ and over wi	th 500 VDC megger	100 $\ensuremath{\text{M}\Omega}$ and over with 500 VDC megger	
Withstand voltage		No failure aft	er 1 minute of 1,000 VA	C application.		
Ambient temperature	-10 to +60°C					
Degree of protection		IEC stand	ards IP67, JIS C0920 (v	vater 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	

Itom	2-wire reed				
Item	K0H	/K0V	K5H/K5V		
Applications	For programmab	e controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		
Power supply voltage			-		
Load voltage	12/24 VDC	12/24 VDC 110 VAC		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 30m	A load current for DC)	0.1V or less (*3)		
Indicator	Red LED(L	it when ON)	-		
Leakage current		0	mA		
Lead wire length	1 m (oil resistant vinyl cabty	re cable 2-conductor 0.2	mm²)	
Shock resistance		294	m/s ²		
Insulation resistance		20 $M\Omega$ and over wi	th 500 VDC megger		
Withstand voltage	N	o failure after 1 minute	of 1,000 VAC application	n.	
Ambient temperature	-10 to +60°C				
Degree of protection	IEC standards IP67, JIS C0920 (water tight)				
Contact protection circuit*4		No	one		
Weight		1 m:18g 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.
*4: Refer to Intro Page 80 for contact protective measures.



Dimensions







K*YH Series

(2-color LED, axial lead wire)





K*V Series (L-shaped lead wire)







Switch internal circuit diagram





Specifications

ltom	2-wire reed	2-wire p	oroximity	3-wire proximity			
Item	F0H/V	F2H/V / F2S	F2YH/F2YV	F3H/V / F3S	F3PH/V	F3YH/F3YV	
Applications	Dedicate	d for programmable	controller	For pro	grammable controlle	r, 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%	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	
Indicator	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 (elasticity, oil resis	tant vinyl cabtyre cable	e 2-conductor 0.15mm ²)	1 m (elasticity, oil resistant vinyl cabtyre cable 3-conductor 0.15mm ²)			
Shock resistance	294m/s ²			980 m/s ²			
Insulation resistance			20 MΩ and over wi	th 500 VDC megger			
Withstand voltage		No	failure 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*4	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 10 mA at 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: Indicators for F2S and F3S are red.

*4: Refer to Intro Page 80 for contact protective measures.

*5: Uses a bend-resistant lead wire.



Dimensions

F*S Series (Lead wire vertical lead-out, for short stroke detection)



F*H Series (straight lead wire)



● F*YH/F3PH Series (straight lead wire)

Set screw (M2)



Switch internal circuit diagram



F*V Series (L-shaped lead wire)



F*YV/F3PV Series (L-shaped lead wire)



Ending

CKD Ending 23

H Series



Load voltage	12/24 VDC	110 VAC	24 VDC ±10%		
Load current	5 to 50 mA	7 to 20 mA	5 to 20 mA		
Internal voltage drop	5 V c	or less	6 V or less		
Indicator	Green LED (Lit when ON)	Red/green LED (Lit when ON)		
Leakage current	0 ו	mA	10 µA or less		
Lead wire length	1 m	1 m (flame-resistant cabtyre cable 2-conductor 0.5 mm ²)			
Insulation resistance	100 M Ω and over with 500 VDC megger				
Withstand voltage	١	No failure after 1 minute of 1,000 VAC application.			
Shock resistance		294 m/s ²			
Ambient temperature		-10 (14°F) to	+60°C (140°F)		
Degree of protection	IEC	IEC Standard IP67, JIS C0920 (water-tight), oil resistance			
Contact protection circuit *1		None			
Weight	1 m:76 g 3 m:181 g 5 m:289 g				

*1: Refer to Intro Page 80 for contact protective measures.

Dimensions

H Series (strong magnetic field proof)



Switch internal circuit diagram



V series Specifications

V Series	Small strong magnetic field proof	Applicable cvlinder	SSD-L4	SSD2-L4	USSD-L4
----------	-----------------------------------	------------------------	--------	---------	---------

CE



Specifications

Itom	2-wire reed					
Item	VO					
Applications	For relay, programmable controller					
Load voltage	24 VDC 110 VAC					
Load current	5 to 50 mA	7 to 20 mA				
Internal voltage drop	3.0 V or less (with 4	40 mA load current)				
Indicator	LED (Lit when ON)					
Leakage current	0 mA					
Lead wire length	1 m (flame-resistant cabtyre cable 2-conductor 0.5 mm ²)					
Insulation resistance	100 M Ω and over with 500 VDC megger					
Withstand voltage	No failure after 1 minute of 1,000 VAC application.					
Shock resistance	294	m/s ²				
Ambient temperature	-10 (14°F) to -	+60°C (140°F)				
Degree of protection	IEC Standards IP67, JIS C0920 (water-tight), oil resistance					
Contact protection circuit *1	None					
Weight	1 m:63 g 3 m:1	70 g 5 m:277 g				

*1: Refer to Intro Page 80 for contact protective measures.

Dimensions

V Series (strong magnetic field proof)



Switch internal circuit diagram



Е	Series

EO

Applicable

cylinder

Heat resistance



SCA2-L2T(E0) SSD-T1L(ET0) SSD2-T1L(ET0)



Specifications

ltom	2-wire reed					
Item	E0			ET0		
Applications		Fc	or relay, program	mmable controller		
Load voltage	12/24 VDC	110 VAC	220 VAC	12/24 VDC	110 VAC	
Load current	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 50 mA	7 to 20 mA	
Internal voltage drop		4 V or less		3.0 V	3.0 V or less	
Leakage current		0 mA				
Indicator	Red	Red LED (Lit when ON)			Yellow LED (Lit when ON)	
Conduit screw	G1/2			-		
Lead wire length		-		1 m (heat-resistant fluorine insulation cabtyre cable 2-conductor 0.5 mm ²)		
Insulation resistance		100 N	$M\Omega$ and over w	ith 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.	
Shock resistance			294	m/s ²		
Ambient temperature	-10 (14	°F) to +120°C	(248°F)	-10 (14°F) to +150°C (302°F)		
Degree of protection	IEC Standards IP67, JIS C0920 (water-tight), oil resistance					
Contact protection circuit *1						
Weight		164 g		44	l g	

*1: Refer to Intro Page 80 for contact protective measures.

Dimensions



Switch internal circuit diagram



Ending 26 CKD







Specifications

ltem	For AC	For DC circuit			
nem	SK	SKDC			
Load voltage	100/110 VAC	200/220 VAC	24 VDC		
Load current	20 mA or less	50 mA or less			
Lead wire length	1 m (oil resistant vinyl cabtyre cable 2-conductor 0.2 mm ²)				
Shock resistance	980 m/s ²				
Insulation resistance	100 MΩ or more at 500 VDC megger				
Withstand voltage	No failure after 1 minute of 1,500 VAC application				
Ambient temperature	-10 (14°F) to +60°C (140°F)				
Degree of protection	IEC Standards IP67	7, JIS C0920 (water-	tight), oil resistance		

SW-SKAC

How to order

- SRAC		
	Code	Description
	SKAC	Circuit AC
	SKDC	Circuit DC

Dimensions

SKAC/SKDC Series



Internal circuit diagram



Note: SKAC is for AC circuit only and SKDC is for DC circuit only.



Series option

Cylinder switch with connector



Features

M8 and M12 connectors with high versatility are adopted Conforms to standards No. NECA4202 and IEC947-5-2 Reduced work-hours for piping and ease of maintenance IP67 is adopted as degree of protection

Protective cover for anti-spatter adherence is available





How to order

* This is a made to order product.





A Model	BLead	wire leadout direction	C Con	nector type, PIN configuration	Lead wir	e length	DO	ption *3
TO	н	Straight type	F	M8 connector 4PIN (+) 3-pin (-) *1	Blank	0.3m	Κ	Protective cover for anti-spatter adherence
T2	V	L-shaped type	М	M12 connector 1PIN (+) 4PIN (-)			*3:	Applies only to T0H
T2W			U	M12 connector 3, 4PIN not polarized *2				
T2YL]		*1: Sup	ports only T0, T2, T2W				
K2Y]			s not support T2YL.				

Note that the "internal voltage drop" will be higher by 1 V than the specification value listed in the catalog.

3-wire cylinder switch



A Model	B Lead	wire leadout direction	С Туре	of connector	Lead wi	re length
Т3	н	Straight type	F	M8 1PIN(+) 3PIN(-) 4PIN:(OUT)	Blank	0.3m
T3P	V	L-shaped type				

T3W

F2Y

Cylinder switch for strong magnetic field



A Model	ВТуре	of connector	Lead wir	e length
H0	М	M12 connector 1, 4PIN not polarized *4	Blank	0.3m
H0Y	U	M12 connector 3, 4PIN not polarized *5		
V0	*4: Supp	orts only H0, H0Y	-	

*5: V0 only 4PIN (+) 3 PIN (-)

Cylinder switch dedicated for AC magnetic field



A Model	вТуре	of connector	Lead wir	e length	C Opti	on
T2YD	G	Spatter-proof lead wire M12 connector 1, 4-pin no polarity	Blank	0.3m	К	Protective cover for anti-spatter adherence
	В	Spatter-proof lead wire M12 connector 3, 4-pin no polarity				
	U	Flame-resistant lead wire UL electric wire M12 connector 3, 4PIN not polarized]			
	W	Flame-resistant lead wire UL electric wire M12 connector 1, 4PIN not polarized]			

Ending *6 : Cylinder switch specifications are the same as those of lead wire. Refer to Ending Pages 16 to 26 for details.

Ending 28 КD

Series option

		Pin a	rray of conn	ector		
Series			Connecto	r pin array		
Selles	Code	Type of connector	1PIN	2PIN	3PIN	4PIN
	F	M8	-	-	(-)	(+)
2-wire	Μ		(+)	-	-	(-)
	U	M12	-	-	(±)	(±)
Strong magnetic field proof Dedicated for AC magnetic field	M, G, W		(±)	-	-	(±)
Dedicated for AC magnetic field	U, B*		-	-	(±)	(±)
3-wire	F	M8	(+)	-	(-)	(OUT)

* Only SW-V0U is polarized (4-pin (+), 3PIN (-)).

	Conne	ector specifications
Item	M8	M12
Pin array	$ \begin{array}{c} 0 + 0 \\ 3 \\ 4 \\ 2 \end{array} $	
Shock resistance	294	m/s²
Degree of protection	IP	67
Insulation resistance	100 MΩ with 50	00 VDC megger
Withstand voltage	,	tacts and between contact housings) ht 1 mA or less

dimensions

①M12 connector (connector for 2-wire cylinder switch, only pin array code of "U")

Standard for outer shape of connector section: IEC64076-2-101



②M12 connector (M12 connector other than ①)

Standard for outer shape of connector section: IEC64076-2-101

	▲►
	Cylinder switch
44.5	

③M8 connector (supporting all models)

Standard for outer shape of connector section: IEC64076-2-104



* For the external dimensions of the cylinder switch, refer to Ending Pages 18 to 26.

Series option

T type cylinder switch with off delay timer T2JH/T2JV



Overview

Optimum for intermediate detection of high speed cylinder. Off delay timer realizes secure PC input.

Features

- PC input malfunctions at cylinder intermediate detection are prevented.
- · Off delay timer 200±50 ms
- · Installation to rodless cylinder SRL3 is possible.
- · A great variety of cylinders.
 - * Made-to-order product when a switch is installed on the cylinder. * Switchs are limited depending on cylinder. Refer to each
 - cylinder page for the details.

T type cylinder switch coolant proof T2YLH/V, T3YLH/V



Overview

This is a cylinder switch that prevents coolant for machine tools used at machining site, etc., from entering the cylinder switch.

Features

• Oil resistance increased by applying coating to the circuit board.

Usable even in an environment exposed to coolant.

· A great variety of cylinders

* Made-to-order product when a switch is installed on the cylinder.

Operational principle



The magnetic field changes when the piston's magnet approaches, and the magnetic resistance element's output voltage changes as shown in the figure. Switching output as shown above is attained when this signal is amplified.



The magnetic field is generated when the piston's magnet approaches, and the contact matching the reed switch direction is magnetized to generate an attraction force and close the contact.

Switch mounting position



Stroke end installation

To check that the switch functions at the max. sensitivity position, mount 1 each at the rod side RD dimension position and at the head side HD dimension position. HD and RD dimensions differ based on a cylinder. Refer to each cylinder dimension. Mount the switch so the lead wire comes to the inside as shown above. Intermediate stroke position installation In detection at the middle of the stroke, fix the piston at the stop position, and move the switch back and forth over the piston. Find the position where the switch turns ON first. The point between these 2 positions is the max. sensitivity position at that piston position, and is the installation position. • Circumference direction installation Differs depending on mounting bracket. When using a band, no limits are set on circumference direction.When using a tie rod, the position can be rotated in 90° increments. Circumferential rotation is not possible for the rail method.



Hysteresis

Hysteresis is the distance from the point where the piston moves and the switch turns ON to the point where the piston moves in the reverse direction and the switch turns OFF. If the piston stops between these points, switch operation becomes unstable and is easily adversely affected by external sources. Please be careful.

Operating range

• The operating range is from the point where the piston moves and the switch turns ON to the point where the piston moves further in the same direction and the switch turns OFF. The center of the operating range is max. sensitivity position. If this position is set as the piston stop position, it is not affected by disturbance and switch operation is stable.

	Bore		Proximit			Reed switc	h	
Model No.	size		ng range		eresis	Operating range	Hysteresis	Page
	(mm)	1-color type	2-color type	1-color type	2-color type		Tysleresis	
Pencil shaped cylinder	Applica	able switch:	Proximity sw	vitch (T2□, ⁻	Г3□, T2W□	, T3W⊡), reed swi	itch (T0], T5_)
	ø6	1.5 to 4	2.5 to 5			4 to 6		
SCP*3	ø10	1.5 to 5.5	2.5 to 6	1.5 or less	1.0 or less	3.5 to 7	3 or less	I-3
	ø16	2 to 6	2.5 to 6			3.5 to 7.5		
	·		· · · · · · · · · · · · · · · · · · ·	·	·	· · · · · · · · · · · · · · · · · · ·		
ledium bore size cylinder	1	-	-	T3P□, T2J□, T2'	₩ <u></u> , T3₩ <u></u> , T2Y[-	h (T0⊡, T5⊡	, T8⊡)
	ø20	2.5 to 5.5	3.5 to 7.5			6.5 to 11		
CMK2	ø25	2.5 to 5.5	3.5 to 7.5	1.5 or less	1.0 or less	7.5 to 12	3 or less	I-79
	ø32	2.5 to 6	3.5 to 8			6.5 to 11.5		
	ø40	3 to 7	4 to 9			7.5 to 13.5		
ledium bore size cylinder	Applicable s	witch: Proximity s	witch (T2□, T3□,	T3P_, T2J_, T2'	₩ <u></u> , T3₩ <u></u> , T2Y[_, T3Y□, T1□), reed switcl	h (T0□, T5□	, T8 <u>)</u>
,	ø20	3 to 6	5 to 6.5			8.5 to 12		, ,
CMA2	ø30	3 to 5.5	6 to 7	1.5 or less	1.0 or less	8 to 13	3 or less	I-191
	ø40	2.5 to 5.5	5.5 to 7.5			8.5 to 12.5		
ound shaped cylinder	Applicable sw	tch: Proximity swite	ch (T2□, T3□, T3F	P□, T2J□, T2W□,	T3W_, T2Y_, T3	Y□, T2YD, T1□), reed swite	ch (T0⊡, T5⊡	, T8🗆)
	ø20	3 to 8	4.5 to 9			6 to 14		
	ø25	3 to 9	5 to 9			5 to 14		
	ø32	3 to 8	5 to 9			5 to 12		
	ø40	3 to 9	5.5 to 9.5			6 to 14		I-213
6CM	ø50	3 to 9	6 to 10	1.5 or less	1.0 or less	6 to 14	3 or less	
	ø63	3 to 9	6 to 10.5			7 to 15	1	
	ø80	4 to 10	6.5 to 11			7 to 15		
	ø100	4 to 10	7 to 11.5			9 to 15	1	
	0100					0.010		
Tie rod cylinder	Applicable sy	vitch: Proximity swi	tch (T2□, T3□, T3	P_, T2J_, T2W_,	T3W_, T2Y_, T3	Y , T2YD, T1), reed switc	h (T0□, T5□,	T8_)
	ø32	2 to 7	6 to 9			6 to 11		
	ø40	2 to 7	6.5 to 9			7 to 12		
SCG	ø50	2 to 7	7 to 10	1.5 05 1000	1.0 0 1 1000	7.5 to 12	3 or less	1 225
bCG	ø63	2 to 7.5	7 to 10	1.5 or less	1.0 or less	8.5 to 13	3 or less	1-335
	ø80	2.5 to 8	7.5 to 10.5			9 to 13.5	1	
	ø100	2.5 to 8	8 to 11			9 to 14		
te d'an transformer d'an an d'antar								T 0
ledium bore size cylinder		-		P_, 12J_, 12W_, I	_13₩_, 12Y_, 13	-	h (10⊡, 15⊡,	18∟)
	ø40	2 to 7	3 to 10			5 to 12.5		
SCA2	ø50	2 to 7.5	3 to 10	1 5 05 1	1000	5.5 to 13.5	2 00 1000	1 407
SCAZ	ø63	2.5 to 7.5	3.5 to 10.5	1.5 or less	1.0 or less	5.5 to 14	3 or less	1-427
	ø80 ø100	3 to 8	4 to 11.5			6.5 to 14.5		
ladium hara siza avlindar		3 to 8.5	4 to 11.5	for strong m		6.5 to 15.5	<u> </u>	
ledium bore size cylinder		ole switch: R	leeu switch	ior strong m	agnetic lielo		es in () inc	licate H
	ø40	-				4 to 7.5(10.5 to 13.5)		
	ø50					4 to 7.5(11 to 14)		
SCA2-L2	ø63	·	-	-	-	5 to 8(11.5 to 14.5)	3 or less	I-427
	ø80					5 to 8(10.5 to 14.5)		
	ø100					5 to 8(10.5 to 14.5)		
arge bore size cylinder.	Applicable or	vitch: Provimity our	tch (T2) T2 T2		Т3₩□ Т2У□ Т2			
arge bore size cyllider	1	-	-	□_, T∠J, T∠VV,	⊤3₩₩ <u>□,</u> 121 <u>□</u> , 13		□ (10□, 13□,	10_)
	ø125	7.5 to 14	14 to 21					
	ø140	7.5 to 14	18 to 26					
SCS2	ø160	7.5 to 14	18 to 26	1.5 or less	1.0 or less	11 to 16	3 or less	1-605
	ø180	7.5 to 14	18 to 26					
	ø200	7.5 to 14	18 to 26					
						•		

Operating range, hysteresis

Operating range	and nyste	resis of eac		· · · · · · · · · · · · · · · · · · ·	in switch	1		(Unit: m
	Bore			y switch		Reed switcl	h	-
Model No.	size (mm)		ng range		eresis	Operating range	Hysteresis	Page
	1		2-color type		· · · · · · · · · · · · · · · · · · ·			
Fie rod cylinder	Applicable s	witch: Proximity s	witch (T2⊡, T3⊡,	T3P□, T2J□, T2	W_, T3W_, T2Y∟	□, T3Y□, T1□), reed switch	h (T0 <u></u> , T5_	, T8⊡)
	ø20	2.5 to 5.5	3.5 to 7.5			6.5 to 11		
CKV2	ø25	2.5 to 5.5	3.5 to 7.5	1.5 or loss	1.0 05 1000	7.5 to 12	2 05 1000	1.650
GRVZ	ø32	2.5 to 6	3.5 to 8	1.5 or less	1.0 or less	6.5 to 11.5	3 or less	1-059
	ø40	3 to 7	4 to 9			7.5 to 13.5		
Tie rod cylinder	Applicable sv	vitch: Provimity swi	tch (T2 T3 T3			Y , T2YD, T1), reed switcl	h /T0□ T5□	
	···			F∟, I∠J∟, I∠VV∟,	, 13₩ <u>,</u> 121 <u>,</u> 13	,	⊓(10⊡, 13⊡, T	
CAV2-L	ø50	3.8 to 6.7	4 to 6			7.7 to 8.3		
COVP2-L	ø75	3.8 to 6.7	4 to 6	0.8 or less	0.7 or less	7.7 to 8.3	1 or less	I-687
COVN2-L	ø100	3.8 to 6.7	4 to 6			7.7 to 8.3		
Compact cylinder	r 🔵 Applicable sv	vitch: Proximity swi	tch (T2	P	T3W	Y T2YD. T1 . reed switc	h (T0□. T5□.	T8-)
oompaat oyimaal	ø12	1.5 to 5.5	3 to 6	,0_,		5 to 8	 	
	ø12 ø16	1.5 to 5.5	3 to 7			4 to 9	1	
		3 to 8		_			-	
	ø20		4.5 to 8			6 to 14		
	ø25	3 to 9	4.5 to 8			5 to 14	{	
	ø32	3 to 8	4.5 to 8			5 to 12	-	
	ø40	3 to 9	5 to 8.5			6 to 14		
SSD2	ø50	3 to 9	5.5 to 9.5	1.5 or less	1.0 or less	6 to 14	3 or less	1-729
	ø63	3 to 9	5.5 to 9.5			7 to 15		
	ø80	4 to 10	6 to 10			7 to 15		
	ø100	4 to 10	6 to 10			9 to 15	-	
	ø125	4 to 10	8 to 10			9 to 15		
	ø140	4 to 10	8 to 10			9 to 15		
	ø160	4 to 10	8 to 10			9 to 15		
Compact cylinder	r 🌑 Applicab	le switch: R	eed switch (ET0_)				
	ø16					8 to 11.5		
	ø20]				9 to 13.5]	
	ø25]				9.5 to 14	1	
SSD2-T1L	ø32	1.	-	-	-	9 to 13	3 or less	I-729
	ø40	1				9 to 14	1	
	ø50	1				11 to 16	1	
	ø63					13 to 18		
O a man a at au line dae	Annlingh In and	taha Daasilaalita assilta						
Compact cylinder				_, I∠J_, I∠VV_,	I 3VV∟, I Z Y∟, I 3 Y		(10∟, 15∟, 1	8∟)
	ø12	1.5 to 5.5	3 to 6			5 to 8	-	
	ø16	1.5 to 4.5	3 to 7			4 to 9	-	
	ø20	3 to 8	4.5 to 8			6 to 14	-	
	ø25	3 to 9	4.5 to 8			5 to 14	-	
SSG	ø32	3 to 8	4.5 to 8	1.5 or less	1.0 or less	5 to 12	3 or less	I-1049
	ø40	3 to 9	5 to 8.5			6 to 14		
	ø50	3 to 9	5.5 to 9.5			7 to 15		
	ø63	3 to 9	5.5 to 9.5			7 to 15		
	ø80	4 to 10	6 to 10			9 to 15		
	ø100	4 to 10	6 to 10			9 to 15	1	

Operating range	and hyste	resis of ea	ch cylinder	model wit	h switch			(Unit: mr
	Bore		Proximit			Reed switc	h	
Model No.	size (mm)		ng range 2-color type		eresis 2-color type	Operating range	Hysteresis	Page
Compact cylinder	• Applicable s	witch: Proximity swi	tch (T2□, T3□, T3	P□, T2J□, T2W□,	T3W□, T2Y□, T3	Y _, T2YD, T1), reed switc	h (T0□, T5□,	T8_)
	ø12	1.5 to 5.5	3 to 6			5 to 8		
	ø16	1.5 to 4.5	3 to 7			4 to 9		
	ø20	3 to 8	4.5 to 8			6 to 14		
	ø25	3 to 9	4.5 to 8			5 to 14		
	ø32	3 to 8	4.5 to 8			5 to 12		
	ø40	3 to 9	5 to 8.5			6 to 14		
SSD	ø50	3 to 9	5.5 to 9.5	1.5 or less	1.0 or less	6 to 14	3 or less	I-1065
	ø63	3 to 9	5.5 to 9.5			7 to 15		
	ø80	4 to 10	6 to 10			7 to 15		
	ø100	4 to 10	6 to 10			9 to 15		
	ø125	4 to 10	8 to 10			9 to 15		
	ø140	4 to 10	8 to 10			9 to 15	1	
	ø160	4 to 10	8 to 10			9 to 15		
Compact cylinder	• Applicat	le switch: Re	eed switch (ETO_)				
	ø16					8 to 11.5		
	ø20	1				9 to 13.5	1	
	ø25	1			9.5 to 14	1		
SSD-T1L	ø32	1.	-	-	-	9 to 13	3 or less	I-1065
	ø40	1				9 to 14	1	
	ø50	1				11 to 16		
	ø63	1				13 to 18	1	
Small direct mounting cylinde	r Applicat	ole switch: Pr	oximity swit	ch (F2⊡, F3	B⊡), reed sw	vitch (F0□)		
	ø6						1000	
MDC2	ø8	1.5 to 3.5	-	1.0 or less	-	3.5 to 6.0	1.0 or less	
	ø10						1000	
	ø6						1.0 or	
MDC2-X	ø8	2.0 to 3.5	-	1.0 or less	-	5.5 to 7.5	less	I-1327
	ø10							
	ø6						1.0 or	
MDC2-Y	ø8	1.5 to 3.5	-	1.0 or less	-	4.5 to 6.0	1.0 or less	
	ø10							
Small cylinder/suction pad	Applicat	le switch: Pr	oximity swit	ch (F2⊡, F3	B⊡), reed sw	vitch (F0□)		
MVC	ø6	1.5 to 3.5		1.0 or less		3.5 to 6.0	1.0 or	I-1353
	ø10	1.5 10 3.5	-	1.0 of less	-	4.5 to 6.0	less	1-1353
Compact cylinder	• Applicab	le switch: Pro	ximity switch	(K2□, K3□,	K3P□, K2Y□], K3Y⊡), reed swit	ch (K0⊡,	K5□)
	ø6	1.5 to 7	3.5 to 7.5			3 to 9.5		
	ø10	1.5 to 7	3.5 to 7.5			3.5 to 9.5		
	010					4 to 11	1	1 1265
SMG	ø16	1.5 to 7	4.5 to 8.5	2 or loss	1 5 05 1000	4 10 11	2 or loos	0-1-0-0-0
SMG		1.5 to 7 2.5 to 9	4.5 to 8.5 5 to 9	2 or less	1.5 or less	5 to 12.5	3 or less	
SMG	ø16			2 or less	1.5 or less		3 or less	
SMG	ø16 ø20	2.5 to 9	5 to 9	2 or less	1.5 or less	5 to 12.5	3 or less	
	Ø16 Ø20 Ø25 Ø32	2.5 to 9 3.5 to 11 3.5 to 11.5	5 to 9 5.5 to 9.5 1.5 to 10.5			5 to 12.5 6.5 to 14 5.5 to 14	3 or less	
	Ø16 Ø20 Ø25 Ø32	2.5 to 9 3.5 to 11 3.5 to 11.5	5 to 9 5.5 to 9.5 1.5 to 10.5			5 to 12.5 6.5 to 14 5.5 to 14	3 or less	
Small compact cylinder	Ø16 Ø20 Ø25 Ø32	2.5 to 9 3.5 to 11 3.5 to 11.5	5 to 9 5.5 to 9.5 1.5 to 10.5	ch (F2⊡, F3		5 to 12.5 6.5 to 14 5.5 to 14		
SMG Small compact cylinder MSD-*L MSDG-L		2.5 to 9 3.5 to 11 3.5 to 11.5	5 to 9 5.5 to 9.5 1.5 to 10.5 oximity swit			5 to 12.5 6.5 to 14 5.5 to 14 /itch (F0_) 5 to 6	3 or less	I-1397

Cylinder switch Operating range, hysteresis

		esis of ead		model wit	In Switch	Reed switc	h	(Unit: mr
Model No.	Bore size	Oporatir	ng range		eresis			Page
Model No.	(mm)			1-color type		Operating range	Hysteresis	гауе
lat compact cylinder	Applicabl	e switch: Pro	oximity switch	n (M2V, M3V,	, M3PV, M2W	/V, M3WV), reed s	witch (M0	V, M5V)
	ø25	9 to 12	6 to 11			7 to 8.5		
	ø32	9 to 12	6 to 11			7 to 8.5		
CS-L	ø40	8.5 to 12	6 to 11	1.5 or less	1.0 or less	7 to 8.5	3 or less	
	ø50	8 to 12	6 to 11			6.5 to 8.5	1	
	ø63	8 to 12	6 to 11			6.5 to 8.5	1	1 4 4 5 5
	ø25	6 to 12	5 to 11			7 to 12		I-1455
FCH-L FCD-L	ø32	6 to 12	5 to 11			7 to 12		
CD-DL	ø40	6 to 12	5 to 11	1.5 or less	1.0 or less	7 to 12	3 or less	
CD-KL	ø50	6 to 12	5 to 11			7 to 12		
CD-RL	ø63	6 to 12	5 to 11			7 to 12		
Stopper cylinder		witch: Drovimity ev	witch (T2 T3					
stopper cylinder	ø20	3 to 8	4.5 to 8		₩, 13₩, 121	6 to 14	∏(10⊡, 15⊡]	, то∟)
	ø20 ø32	3 to 8	4.5 to 8			5 to 12		
STK	ø32 ø40	3 to 9	5 to 8.5	1.5 or less	1.5 or less	6 to 14	3 or less	I-1491
	ø40 ø50	3 to 9	5.5 to 9.5			6 to 14	1	
		0.00	0.0 10 0.0			0.011		
Brake cylinder	Applicabl	e switch: Pro	oximity switch	n (M2V, M3V,	, M3PV, M2W	/V, M3WV), reed sv	witch (M0	V, M5V
JLKP	ø16	5 to 9.5	4.5 to 9.5	1.5 or less	1.0 or less	5 to 9.5	3 or less	II-661
		uitahi Drawimitu a						
Brake cylinder	Applicable sy	-	,	T3P□, T2J□, T2\	W□, T3W□, T2Y□], T3Y_, T1_), reed switc	h (T0□, T5□	, T8 <u>)</u>
Brake cylinder	Applicable sv ø20	2.5 to 5.5	3.5 to 7.5	T3P□, T2J□, T2\	W_, T3W_, T2Y_	6.5 to 11	h (T0_, T5_	, T8 <u>)</u>
		-	,				-	
-	ø20	2.5 to 5.5 2.5 to 5.5 2.5 to 6	3.5 to 7.5	T3P_, T2J_, T2\	W_, T3W_, T2Y_ 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5	h (T0_, T5_ 3 or less	
	ø20 ø25	2.5 to 5.5 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5			6.5 to 11 7.5 to 12	-	
JLK	ø20 ø25 ø32 ø40	2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9	1.5 or less	1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5	3 or less	II-661
JLK	Ø20 Ø25 Ø32 Ø40 Ø40	2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity s	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2□, T3□,	1.5 or less	1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5	3 or less	II-661
JLK Brake cylinder	Ø20 Ø25 Ø32 Ø40 Ø40 Ø40 Ø20	2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity so 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 [_] , T3 [_] , 3.5 to 7.5	1.5 or less	1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5], T3Y_, T1_), reed switc 6.5 to 11	3 or less	II-661
JLK Brake cylinder		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity so 2.5 to 5.5 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 , T3 , 3.5 to 7.5 3.5 to 7.5	1.5 or less	1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y,, T1, reed switc 6.5 to 11 7.5 to 12	3 or less	II-661 , T8_)
JLK Brake cylinder	Ø20 Ø25 Ø32 Ø40 Ø40 Ø40 Ø20	2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity so 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 [_] , T3 [_] , 3.5 to 7.5	1.5 or less T3P_, T2J_, T2\	1.0 or less ₩_, T3₩_, T2Y	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5], T3Y_, T1_), reed switc 6.5 to 11	3 or less	II-661 , T8_)
JLK Brake cylinder	Ø20 Ø25 Ø32 Ø40 ● Applicable sv Ø20 Ø25 Ø32 Ø40	2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity s 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2□, T3□, 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9	1.5 or less T3P, T2J, T2V 1.5 or less	1.0 or less M_, T3W_, T2Y 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y□, T1□), reed switc 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5	3 or less h (T0_, T5_ 3 or less	II-661 , T8□) II-691
JLK Brake cylinder JSK2		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2_, T3_, 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2_, T3_,	1.5 or less T3P, T2J, T2V 1.5 or less	1.0 or less M_, T3W_, T2Y 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y,, T1,, reed switc 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y, T1, reed switc	3 or less h (T0_, T5_ 3 or less	II-661 , T8□) II-691
JLK Brake cylinder JSK2 Brake cylinder		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 3 to 6	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 ⁻ , T3 ⁻ , 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 ⁻ , T3 ⁻ , 5 to 6.5	1.5 or less T3P, T2J, T2\ 1.5 or less T3P, T2J, T2\	1.0 or less W_, T3W_, T2Y 1.0 or less W_, T3W_, T2Y	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 , T3Y_, T1_), reed switc 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y_, T1_), reed switc 8.5 to 12	3 or less h (T0_, T5_ 3 or less h (T0_, T5_	II-661 , T8_) II-691 , T8_)
JLK Brake cylinder ISK2 Brake cylinder		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 3 to 6 3 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2_, T3_, 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2_, T3_, 5 to 6.5 6 to 7	1.5 or less T3P, T2J, T2V 1.5 or less	1.0 or less M_, T3W_, T2Y 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 , T3Y_, T1_, reed switc 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y_, T1_, reed switc 8.5 to 12 8 to 13	3 or less h (T0_, T5_ 3 or less	II-661 , T8_) II-691 , T8_)
JLK Brake cylinder ISK2 Brake cylinder		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 3 to 6	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 ⁻ , T3 ⁻ , 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 ⁻ , T3 ⁻ , 5 to 6.5	1.5 or less T3P, T2J, T2\ 1.5 or less T3P, T2J, T2\	1.0 or less W_, T3W_, T2Y 1.0 or less W_, T3W_, T2Y	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 , T3Y_, T1_), reed switc 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y_, T1_), reed switc 8.5 to 12	3 or less h (T0_, T5_ 3 or less h (T0_, T5_	II-661 , T8_) II-691 , T8_)
JLK Brake cylinder JSK2 Brake cylinder JSM2		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 vitch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 vitch: Proximity sv 3 to 6 3 to 5.5 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2, T3, 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2, T3, 5 to 6.5 6 to 7 5.5 to 7.5	1.5 or less T3P, T2J, T2I 1.5 or less T3P, T2J, T2I 1.5 or less	1.0 or less W_, T3W_, T2Y_ 1.0 or less W_, T3W_, T2Y_ 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 11 7.5 to 12 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 1, T3Y□, T1□, reed switc 8.5 to 12 8 to 13 8.5 to 12.5	3 or less h (T0_, T5_ 3 or less h (T0_, T5_ 3 or less	II-661 , T8_) II-691 , T8_) II-710
JLK Brake cylinder JSK2 Brake cylinder JSM2		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 vitch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 vitch: Proximity sv 3 to 6 3 to 5.5 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2, T3, 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2, T3, 5 to 6.5 6 to 7 5.5 to 7.5	1.5 or less T3P, T2J, T2I 1.5 or less T3P, T2J, T2I 1.5 or less	1.0 or less W_, T3W_, T2Y_ 1.0 or less W_, T3W_, T2Y_ 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 11 7.5 to 12 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 1, T3Y□, T1□, reed switc 8.5 to 12 8 to 13 8.5 to 12.5	3 or less h (T0_, T5_ 3 or less h (T0_, T5_ 3 or less	II-661 , T8_) II-691 , T8_) II-710
JLK Brake cylinder JSK2 Brake cylinder JSM2		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 3 to 6 3 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 ⁻ , T3 ⁻ , 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2 ⁻ , T3 ⁻ , 5 to 6.5 6 to 7 5.5 to 7.5 tch (T2 ⁻ , T3 ⁻ , T3 ⁻ , T3 ⁻),	1.5 or less T3P, T2J, T2I 1.5 or less T3P, T2J, T2I 1.5 or less	1.0 or less W_, T3W_, T2Y_ 1.0 or less W_, T3W_, T2Y_ 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 11 7.5 to 12 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13 8.5 to 12 8 to 13 8.5 to 12.5 (_, T2YD, T1_), reed switc	3 or less h (T0_, T5_ 3 or less h (T0_, T5_ 3 or less	II-661 , T8_) II-691 , T8_) II-710
JLK Brake cylinder JSK2 Brake cylinder JSM2		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 3 to 6 3 to 5.5 2.5 to 7	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2_, T3_, 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2_, T3_, 5 to 6.5 6 to 7 5.5 to 7.5 tch (T2_, T3_, T3_, T3_ 6 to 9	1.5 or less T3P, T2J, T2V 1.5 or less T3P, T2J, T2V 1.5 or less P, T2J, T2W,	1.0 or less W_, T3W_, T2Y_ 1.0 or less W_, T3W_, T2Y_ 1.0 or less T3W_, T2Y_, T3	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 11 7.5 to 12 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 1, T3Y, T1, reed switc 8.5 to 12 8 to 13 8.5 to 12.5 (_, T2YD, T1_), reed switc 6 to 11	 3 or less h (T0_, T5_ 3 or less h (T0_, T5_ 3 or less h (T0_, T5_, T5_, T5_, T5_, T5_, T5_, T5_, T5	II-661 , T8_) II-691 , T8_) II-710 T8_)
JLK Brake cylinder JSK2 Brake cylinder JSM2		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 witch: Proximity sv 3 to 6 3 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 7 2 to 7 2 to 7	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2, T3, 73, 73) 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 6.5 6 to 7 5.5 to 7.5 tch (T2, T3, T3) 6 to 9 6.5 to 9 7 to 10	1.5 or less T3P, T2J, T2I 1.5 or less T3P, T2J, T2I 1.5 or less	1.0 or less W_, T3W_, T2Y_ 1.0 or less W_, T3W_, T2Y_ 1.0 or less	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 11 7.5 to 12 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 12 8 to 13 8.5 to 12 8 to 13 8.5 to 12.5 7.5	3 or less h (T0_, T5_ 3 or less h (T0_, T5_ 3 or less	II-661 , T8_) II-691 , T8_) II-710 T8_)
Brake cylinder JLK Brake cylinder JSK2 Tie rod cylinder with brake JSG		2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 vitch: Proximity sv 2.5 to 5.5 2.5 to 5.5 2.5 to 5.5 2.5 to 6 3 to 7 vitch: Proximity sv 3 to 6 3 to 5.5 2.5 to 5.5 2.5 to 5.5 vitch: Proximity sv 2 to 7 2 to 7 2 to 7	3.5 to 7.5 3.5 to 7.5 3.5 to 8 4 to 9 witch (T2, T3, 73, 73) 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 7.5 3.5 to 6.5 6 to 7 5.5 to 7.5 tch (T2, T3, T3) 6 to 9 6.5 to 9	1.5 or less T3P, T2J, T2V 1.5 or less T3P, T2J, T2V 1.5 or less P, T2J, T2W,	1.0 or less W_, T3W_, T2Y_ 1.0 or less W_, T3W_, T2Y_ 1.0 or less T3W_, T2Y_, T3	6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y_, T1_), reed switc 6.5 to 11 7.5 to 12 6.5 to 11.5 7.5 to 13.5 , T3Y_, T1_), reed switc 8.5 to 12 8 to 13 8.5 to 12.5 (_, T2YD, T1_), reed switc 6 to 11 7 to 12	 3 or less h (T0_, T5_ 3 or less h (T0_, T5_ 3 or less h (T0_, T5_, T5_, T5_, T5_, T5_, T5_, T5_, T5	II-661 , T8_) II-691 , T8_) II-710 T8_)

	and nyster	resis of ead			II SWILCH			(Unit: mr
	Bore size (mm)	Proximity switch Reed switch					<u>1</u>	
Model No.		Operatir			eresis	Operating range	Hysteresis	Page
		1-color type	2-color type	1-color type	2-color type		Trysteresis	
Brake cylinder	Applicable sw	vitch: Proximity swit	tch (T2□, T3□, T3	P□, T2J□, T2W□,	T3W□, T2Y□, T3	Y, T2YD, T1), reed switch	n (T0⊡, T5⊡,	T8_)
JSC3 (Medium bore size)	ø40	2 to 7	3 to 10	1.5 or less	1.0 or less	5 to 12.5	3 or less	II-757
	ø50	2 to 7.5	3 to 10			5.5 to 13.5		
	ø63	2.5 to 7.5	3.5 to 10.5			5.5 to 14		
	ø80	3 to 8	4 to 11.5			6.5 to 14.5		
	ø100	3 to 8.5	4 to 11.5			6.5 to 15.5		
Brake cylinder	Applicable	switch: Stron	g magnetic fie	ld proof reed a	switch (H0□)	* The value	es in () inc	licate H0
	ø40				-	4 to 7.5(10.5 to 13.5)	3 or less	
JSC3-L2	ø50]				4 to 7.5(11 to 14)		
Medium bore	ø63	1	-			5 to 8(11.5 to 14.5)		II-757
size)	ø80	1				5 to 8(10.5 to 14.5)		
	ø100					5 to 8(10.5 to 14.5)		
Brake cylinder	1	vitch: Proximity swit	tch (T2□, T3□, T3	P□, T2J□, T2W□,	T3W□, T2Y□, T3	Y , T2YD, T1), reed switch	n (T0⊡, T5⊡,	T8_)
	ø125	7.5 to 14	14 to 21			11 to 16		
JSC4 (Large bore size)	ø125 ø140	7.5 to 14	14 to 21	1.5 or less	1.0 or less	11 to 16		II-757
	ø140 ø160	7.5 to 14	18 to 26			11 to 16	- 3 or less	
			18 to 26					
/	ø200	7.5 to 14	16 10 20			11 to 16		
Position locking compact cylinder		le switch: Pr 1⊡), reed sv			3□, T3P□, T	[−] 2J□, T2W□, T3W	□, T2Y□], T3Y[
USSD	ø20	3 to 8	4.5 to 8	,		6 to 14		
	ø25	3 to 9	4.5 to 8			5 to 14		
	ø32	3 to 8	4.5 to 8			5 to 12		
			4.0 10 0	1 5		0.012		
	α <u>4</u> ()	3 to 9	5 to 8 5	1.5 or less	1.0 or less	6 to 14	3 or less	11-831
	ø40	3 to 9	5 to 8.5	1.5 of less	1.0 or less	6 to 14	3 or less	II-831
	ø40 ø50 ø63	3 to 9 3 to 9 3 to 9	5 to 8.5 5.5 to 9.5 5.5 to 9.5	1.5 or less	1.0 or less	6 to 14 6 to 14 7 to 15	3 or less	11-831
	ø50 ø63 ● Applicab , M5□)	3 to 9 3 to 9 le switch: Pr	5.5 to 9.5 5.5 to 9.5 oximity swite			6 to 14 7 to 15 M2W□, M3W□), r		
Free position locking flat cylinder	ø50 ø63 ● Applicab , M5⊡) ø25	3 to 9 3 to 9 le switch: Pr 6 to 12	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11			6 to 14 7 to 15 M2W□, M3W□), r 7 to 12		
flat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 11	ch (M2⊡, M	3□, M3P□,	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12	eed swit	ch (M0[
lat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 11 5 to 11			6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 7 to 12 7 to 12		ch (M0[
lat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12	5.5 to 9.5 5.5 to 9.5 Oximity swite 5 to 11 5 to 11 5 to 11 5 to 11	ch (M2⊡, M	3□, M3P□,	6 to 14 7 to 15 M2W, M3W), r 7 to 12 7 to 12 7 to 12 7 to 12 7 to 12 7 to 12	eed swit	ch (M0[
lat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 11 5 to 11	ch (M2⊡, M	3□, M3P□,	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 7 to 12 7 to 12	eed swit	ch (M0[
Iat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 12 le switch: Pr 1_), reed sv	5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11	ch (M2⊡, M 1.5 or less ch (T2⊡, T3	3_, M3P_, 1.0 or less	6 to 14 7 to 15 M2W, M3W), r 7 to 12 7 to 12	eed swit	ch (M0]
flat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 le switch: Pr 1_), reed sv 2 to 7	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 10 5	ch (M2⊡, M 1.5 or less ch (T2⊡, T3	3_, M3P_, 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 5 to 12.5	eed swit	ch (M0]
Tree position locking Vedium bore size cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 12 12 10), reed sw 2 to 7 2 to 7.5	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 7 oximity swite vitch (T0□, 3 to 10 3 to 10	ch (M2, M3 1.5 or less ch (T2, T3 T5, T8)	3_, M3P_, 1.0 or less 3_, T3P_, T	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 5 to 12.5 5.5 to 13.5	eed swit	ch (M0] II-875], T3Y[
Tat cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 le switch: Pr 1_), reed sv 2 to 7	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 7 oximity swite vitch (T0□,, 3 to 10 3.5 to 10.5	ch (M2⊡, M 1.5 or less ch (T2⊡, T3	3_, M3P_, 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 5 to 12 5 to 12.5 5.5 to 13.5 5.5 to 14	eed swit	ch (M0[-875], T3Y[
lat cylinder JFCD Free position locking Medium bore size cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 12 12 10), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8	5.5 to 9.5 5.5 to 9.5 oximity switt 5 to 11 5 to 10 3 to 10 3.5 to 10.5 4 to 11.5	ch (M2, M3 1.5 or less ch (T2, T3 T5, T8)	3_, M3P_, 1.0 or less 3_, T3P_, T	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 5 to 12.5 5.5 to 13.5 5.5 to 14 6.5 to 14.5	eed swit	ch (M0] II-875], T3Y[
lat cylinder JFCD Free position locking Medium bore size cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 12 12 10, reed sv 2 to 7 2 to 7.5 2.5 to 7.5	5.5 to 9.5 5.5 to 9.5 oximity swite 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 5 to 11 7 oximity swite vitch (T0□,, 3 to 10 3.5 to 10.5	ch (M2, M3 1.5 or less ch (T2, T3 T5, T8)	3_, M3P_, 1.0 or less 3_, T3P_, T	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 5 to 12 5 to 12.5 5.5 to 13.5 5.5 to 14	eed swit	ch (M0 II-875], T3Y[
Iat cylinder JFCD Tree position locking Aedium bore size cylinder JSC Tree position locking	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 ø63 ø80 ø100	3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 12 12 10), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W, M3W), r 7 to 12 7 to 13 5 to 13.5 5 .5 to 13.5 6 .5 to 14.5 6 .5 to 15.5 7 140 15 .5 15 .5 to 15 .5 15 .5 to 15 .5 15 .5 to 15 .5 14 .5 15 .5 to 15 .5 to 15 .5 15 .5 to 15 .5 to 15 .5 15 .5 to 15 .5	eed swit	ch (M0 II-875], T3Y[II-891
flat cýlinder UFCD Free position locking Medium bore size cylinder USC Free position locking	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 ø63 ø80 ø100	3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W, M3W), r 7 to 12 7 to 13 5 to 13.5 5 .5 to 13.5 6 .5 to 14.5 6 .5 to 15.5 7 140 15 .5 15 .5 to 15 .5 15 .5 to 15 .5 15 .5 to 15 .5 14 .5 15 .5 to 15 .5 to 15 .5 15 .5 to 15 .5 to 15 .5 15 .5 to 15 .5	eed swit 3 or less , T2Y 3 or less	ch (M0 II-875], T3Y[II-891
Free position locking Wedium bore size cylinder	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 Ø63 Ø63 Ø63 Ø63 Ø63 Ø63 Ø63	3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 5.5 to 12.5 5.5 to 13.5 5.5 to 14 6.5 to 15.5 (H0□) * The valu	eed swite 3 or less	ch (M0 II-875], T3Y[II-891
	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 Ø63 Ø63 Ø63 Ø63 Ø63 Ø63 Ø63 Ø40 ø50 ø63 Ø80 ø100 Applicab ø40	3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 (H0□) * The valu 4 to 7.5(10.5 to 13.5)	eed swite 3 or less	ch (M0 II-875], T3Y II-891
Free position locking Wedium bore size cylinder	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 ø80 ø100 Applicab ø40 ø50	3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 2J□, T2W□, T3W 5 to 12.5 5.5 to 13.5 5.5 to 14 6.5 to 14.5 6.5 to 15.5 (H0□) * The valu 4 to 7.5(10.5 to 13.5) 4 to 7.5(11 to 14)	eed swit 3 or less , T2Y 3 or less es in () inc	ch (M0 II-875], T3Y[II-891
Tat cylinder UFCD Free position locking Medium bore size cylinder USC Free position locking Medium bore size cylinder	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 ø100 Applicab ø40 ø50 ø63	3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 2J□, T2W□, T3W 5 to 12.5 5.5 to 13.5 5.5 to 14 6.5 to 14.5 6.5 to 15.5 (H0□) * The valu 4 to 7.5(10.5 to 13.5) 4 to 7.5(11 to 14) 5 to 8(11.5 to 14.5)	eed swit 3 or less , T2Y 3 or less es in () inc	ch (M0 II-875], T3Y[II-891
Iat cylinder JFCD Free position locking Aedium bore size cylinder JSC Free position locking Aedium bore size cylinder	ø50 ø63 Applicab , M5□) ø25 ø32 ø40 ø50 ø63 Applicab T2YD, T ø40 ø50 ø63 Applicab ø40 ø50 ø63	3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 0ximity swite 5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less	3, M3P, 1.0 or less 3, T3P, T 1.0 or less	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 12 2J□, T2W□, T3W 5 to 12.5 5.5 to 13.5 5.5 to 13.5 5.5 to 14 6.5 to 14.5 6.5 to 15.5 (H0□) * The valu 4 to 7.5(10.5 to 13.5) 4 to 7.5(11 to 14) 5 to 8(11.5 to 14.5) 5 to 8(10.5 to 14.5)	eed swit 3 or less , T2Y 3 or less es in () inc	ch (M0 II-875], T3Y[II-891
Iat cylinder UFCD Free position locking Medium bore size cylinder USC Free position locking Medium bore size cylinder USC USC-L2		3 to 9 3 to 9 1e switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 1 □), reed sw 2 to 7 2 to 7.5 2.5 to 7.5 3 to 8 3 to 8.5	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less or strong ma	3, M3P, 1.0 or less 3, T3P, T 1.0 or less agnetic field	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 13.5 4 to 7.5(10.5 to 13.5) 4 to 7.5(11 to 14) 5 to 8(10.5 to 14.5) 5 to 8(10.5 to 14.5)	eed swit 3 or less , T2Y 3 or less es in () inc	ch (M0 II-875], T3Y[II-891
flat cýlinder UFCD Free position locking Medium bore size cylinder USC Free position locking Medium bore size cylinder		3 to 9 3 to 9 le switch: Pr 6 to 12 6 to 12 6 to 12 6 to 12 6 to 12 12 12 12 12 12 12 12 12 12	5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 11 5 to 10 3.5 to 10.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5 4 to 11.5	ch (M2, M 1.5 or less ch (T2, T3 T5, T8) 1.5 or less or strong ma	3, M3P, 1.0 or less 3, T3P, T 1.0 or less agnetic field	6 to 14 7 to 15 M2W□, M3W□), r 7 to 12 7 to 13.5 4 to 7.5(10.5 to 13.5) 4 to 7.5(11 to 14) 5 to 8(10.5 to 14.5) 5 to 8(10.5 to 14.5)	eed switt 3 or less , T2Y 3 or less es in () inc 3 or less	ch (M0] II-875], T3Y[II-891
Cylinder switch Operating range, hysteresis

Operating range	and hyster	resis of ea	ch cylinder	· model wit	h switch	Operating ra	ange, ny	(Unit: m
operating range	Bore			ty switch		Reed switcl	h	
Model No.	size	Operatir	ng range		eresis			Page
	(mm)		2-color type			Operating range	Hysteresis	Ű
Guided cylinder	Applicable sw	vitch: Proximity swi	itch (T2□, T3□, T3	P_, T2J_, T2W_,	T3W□, T2Y□, T3	Y□, T2YD, T1□), reed switc	h (T0⊡, T5⊡,	T8_)
	ø12	1.5 to 4.5	4 to 6			6 to 10		
	ø16	1.5 to 4.5	4 to 6			4 to 9		
	ø20	3 to 8	5 to 8.5			6 to 14		
	ø25	3 to 9	5 to 8.5			5 to 14		
STG	ø32	3 to 9	5 to 9	1.5 or less	1.5 or less	5 to 12	3 or less	II-329
	ø40	3 to 9	6 to 10			6 to 14		
	ø50	3 to 9	6 to 10			6 to 14]	
	ø63	3 to 9	6 to 10			7 to 15		
	ø80	4 to 10	7 to 10			7 to 15		
Guided cylinder	Applicable sw	vitch: Proximity swi	itch (T2□, T3□, T3	P□, T2J□, T2W□,	T3W□, T2Y□, T3	Y _, T2YD, T1 _), reed switcl	h (T0□, T5□,	T8_)
	ø8	1.5 to 3.5	4 to 6			5 to 9		
	ø12	1.5 to 4.5	4 to 6	1		6 to 10		
	ø16	1.5 to 4.5	4 to 6			4 to 9		
	ø20	3 to 8	5 to 8.5			6 to 14		
	ø25	3 to 9	5 to 8.5			5 to 14		
STS/L	ø32	3 to 8	5 to 9	1.5 or less	1.5 or less	5 to 12	3 or less	II-437
	ø40	3 to 9	6 to 10			6 to 14		
	ø50	3 to 9	6 to 10			6 to 14		
	ø63	3 to 9	6 to 10			7 to 15		
	ø80	4 to 10	7 to 10			7 to 15		
	ø100	2 to 9	7 to 10			7 to 15		
Linear slide cylinder	1		-			3Y_)		
LCW	ø12	3.5 to 6.5	4.5 to 6.5	1.0 or less	1.0 or less	-	-	II-5
Linear slide cylinder	Applicab	le switch: Pi	-	ch (T2⊡, T3	B□, T2W□, ⁻	-	h (T0⊡,	T5□)
LCW	ø16	3 to 5	4 to 5.5	1.0 or less	1.0 or less	6.5 to 9.5	3.0 or	11-5
	ø20	4.5 to 6.5	5.5 to 6.5			8 to 12	less	
inear slide cylinder	Applicab	le switch: Pi	roximity swit	:ch (F2⊡, F3	8□, F2Y□, F	3Y)		
	ø6		2.5 to 5.5					
LCR	ø8	2 to 4	3.5 to 6	1.0 or less	1.0 or less	-	-	II-55
	ø12		3 to 4.5					
inear slide cylinder	Applicab	le switch: Pi	roximity swit	ch (T2⊡, T3	8□, T2W□, ⁻	T3W□), reed switc	ch (T0⊡,	T5)
	ø16	2 to 4	3 to 4.5			5 to 9	1.0 or	
LCR	ø20	2 to 5.5	4 to 5.5	1.0 or less	1.0 or less	6.5 to 11	less	II-55
	ø25	2.5 to 6	3.5 to 6			8 to 12		
Linear slide cylinder	• Applicab	le switch: Pi	roximity swit	ch (F2⊡, F3	8□, F2Y□, F	3Y_)		
	ø6		2.5 to 5.5					
LCG	ø8	2 to 4	3.5 to 6	1.0 or less	1.0 or less	-	-	II-137
	ø12		3 to 4.5					
inear slide cylinder	• Applicab	le switch: Pi	roximity swit	ch (T2⊡, T3	B□, T2W□, ⁻	T3W□), reed switc	:h (T0⊡,	T5)
	ø16	2 to 4	3 to 4.5			5 to 9		
LCG	ø20	2 to 5.5	4 to 5.5	1.0 or less	1.0 or less	6.5 to 11	1.0 or	II-137
	ø25	2.5 to 6	3.5 to 6			8 to 12	less	
			· · · · · · · · · · · · · · · · · · ·					
Linear slide cylinder	• Applicab	le switch: Pi	roximity swit		B□, T2W□, ⁻	T3W□), reed switc	ch (T0⊡,	T5_)
	ø25	0.5 to 6	1.0 to 5.5			2 to 10.5	3.5 or	
LCX	ø32	1.0 to 5.5	0.5 to 5.0	2 or less	2 or less	1 to 11	less	II-201
	952	1.0 10 5.5	0.3 10 5.0	1			1000	I

Cylinder switch

	Bore		Proximit	y switch		Reed switc	h	
Model No.	size	Operating range Hysteresis			Operating range	Llustaragia	Page	
	(mm)	1-color type	2-color type	1-color type	2-color type	Operating range	Hysteresis	
inear slide cylinder	r 🔵 Applicab	le switch: Pr	oximity swit	ch (F2⊡, F3	3⊡, F2Y⊡, F	3Y_)		
	ø4.5							
.CM	ø6	1 to 3	2 to 4	1.0 or less	1.0 or less	-	-	II-261
	ø8							
win rod cylinder	• Applicabl	le switch: Pro	ximitv switch	(K2□. K3□.	K3P . K2Y	. K3Y). reed swit	ch (K0□.	K5)
······	ø6	1 to 6	4 to 7.5	, ,		4 to 9(STR2-M)	,	
	ø10	1 to 5.5	4 to 7.5			4 to 9(STR2-M)	-	
	ø10 ø16	1.5 to 7.5	4.5 to 9			5 to 12.5		
STR2				2.0 or less	1.5 or less		3.0 or less	II-567
	ø20	3 to 9	5.5 to 10			6.5 to 14.5	1655	
	ø25	3.5 to 10.5	6.5 to 10.5			8 to 14.5	-	
	ø32	-	-			-		
Init cylinder	Applicab	le switch: Pr	oximity swit	ch (T2⊡, T3	B⊡), reed sw	itch (T0_, T5_)		
, ,	ø10					. ,	1	
	ø16						20.00	
JCA2-*L	ø10 ø25	1.5 to 4	-	1.5 or less	-	4.5 to 8	3.0 or less	II-625
	ø25 ø32						1633	
energy absorption cylinder		vitch: Proximity swit	tch (T2□. T3□. T3	P□. T2J□. T2W□.	. T3W	(_, T2YD, T1_), reed switc	⊥ :h (T0□. T5□.	. ⊤8⊡)
	1	-		· _, · _•_, · _ · _ ·	,	,	,,,	
	ø20	3 to 8	4.5 to 9			6 to 14	-	
	ø25	3 to 9	5 to 9			5 to 14	-	
	ø32	3 to 8	5 to 9	1.5 or less	1.0 or less	5 to 12	3 or less	I-941
ICM				1.0 01 1033				
ICM	ø40	3 to 9	5.5 to 9.5	1.0 01 1033	1.0 01 1033	6 to 14		_
ICM	ø40 ø50 ø63	3 to 9 3 to 9	6 to 10 6 to 10.5			6 to 14 7 to 15		
	ø40 ø50 ø63	3 to 9 3 to 9	6 to 10 6 to 10.5			6 to 14 7 to 15		
ligh speed cylinder		3 to 9 3 to 9	6 to 10 6 to 10.5 oximity swit	ch (R1, R2,	R3, R2Y, R3	6 to 14 7 to 15 3Y), reed switch (R0, R4, F	R5, R6
igh speed cylinder		3 to 9 3 to 9 le switch: Pr 6 to 14	6 to 10 6 to 10.5 roximity swit			6 to 14 7 to 15 3Y), reed switch (7 to 14		
igh speed cylinder		3 to 9 3 to 9 le switch: Pr 6 to 14 6 to 14	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18	ch (R1, R2,	R3, R2Y, R3	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13	R0, R4, F	R5, R6
igh speed cylinder		3 to 9 3 to 9 0le switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18	ch (R1, R2, 1.5 or less	R3, R2Y, R3	6 to 14 7 to 15 BY), reed switch (7 to 14 8 to 13 9 to 14 9 to 14	R0, R4, F 3.0 or less	R5, R6
igh speed cylinder	Ø40 Ø50 Ø63 Mathematical Application Ø20 Ø25 Ø32 Ø50 Ø50	3 to 9 3 to 9 0le switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14	6 to 10 6 to 10.5 Toximity switt 11 to 18 11 to 18 11 to 18 11 to 18	ch (R1, R2, 1.5 or less (M2 , M3 ,	R3, R2Y, R3 1.0 or less M3P□, M2W\	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14	R0, R4, F 3.0 or less	R5, R6
igh speed cylinder		3 to 9 3 to 9 0le switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 9 to 13	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 4 to 12	ch (R1, R2, 1.5 or less (M2 , M3 , 1.5 or less	R3, R2Y, R3 1.0 or less M3P□, M2W\ 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11	R0, R4, F 3.0 or less	R5, R6
igh speed cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50	3 to 9 3 to 9 0le switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 9 to 13 4 to 13	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 the to 18 4 to 12 4 to 12	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11	R0, R4, F 3.0 or less tch (M0_,	R5, R6
igh speed cylinder		3 to 9 3 to 9 0le switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 9 to 13 4 to 13 4 to 13 4 to 13	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 therefore a second	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less	R3, R2Y, R3 1.0 or less M3P⊡, M2WV 1.0 or less 1.0 or less 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11	R0, R4, F 3.0 or less tch (M0_, 3.0 or	R5, R6
igh speed cylinder		3 to 9 3 to 9 0le switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 9 to 13 4 to 13 4 to 13 9.5 to 15.5	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (inity switch) 4 to 12 4 to 12 4 to 12 9 to 14	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 8.5 to 13.5	R0, R4, F 3.0 or less tch (M0_, 3.0 or less	R5, R6
igh speed cylinder CA odless cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50	3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (inity switch 0 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5	R0, R4, F 3.0 or less tch (M0_, 3.0 or	R5, R6
igh speed cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50	3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5	6 to 10 6 to 10.5 Foximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 stimity switch 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.0 or less	R3, R2Y, R3 1.0 or less M3P, M2W 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less	6 to 14 7 to 15 BY), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16	R0, R4, F 3.0 or less tch (M0, s.0 or less 3.5 or	R5, R6
ligh speed cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50	3 to 9 3 to 9 3 to 9 e switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 e switch: Prox 4 to 13 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24	6 to 10 6 to 10.5 FOXIMITY SWITE 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch 14 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less	R3, R2Y, R3 1.0 or less M3P, M2W 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 13.5 7 to 13.5 10 to 16 17 to 27	R0, R4, F 3.0 or less tch (M0, s.0 or less 3.5 or	R5, R6
ligh speed cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 9 3 to 9 3 to 9 e switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 7 to 13 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24	6 to 10 6 to 10.5 Foximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 inity switch 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 2.5 or less 2.5 or less	R3, R2Y, R3 1.0 or less M3P, M2W 1.0 or less 1.0 or less 1.0 or less 1.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 3 to 11 3 to 11 3 to 11 1 3 to 13.5 7 to 13.5 10 to 16 17 to 27 17 to 27	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6
igh speed cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80	3 to 9 3 to 9 3 to 9 e switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 7 to 13 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 26.5 to 45.5	6 to 10 6 to 10.5 OXIMITY SWITE 11 to 18 11 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 16.5 to 40	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 2.5 or less 5.0 or less 5.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 3.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 7 to 14 9 to 14 9 to 14 7 to 14 8 to 13 9 to 14 7 to 14 8 to 13 5 to 11 3 to 11 8 to 11 3 to 11 8 to 13 5 to 13 7 to 13 5 to 13 5 to 13 7 to 14 8 to 13 9 to 14 9 to 11 8 to 11 8 to 13 5 10 to 16 17 to 27 20 5 to 41	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less	R5, R6
ligh speed cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 9 3 to 9 3 to 9 e switch: Pr 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 7 to 13 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24	6 to 10 6 to 10.5 Foximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 inity switch 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27	ch (R1, R2, 1.5 or less (M2, M3, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 2.5 or less 2.5 or less	R3, R2Y, R3 1.0 or less M3P, M2W 1.0 or less 1.0 or less 1.0 or less 1.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 3 to 11 3 to 11 3 to 11 1 3 to 13.5 7 to 13.5 10 to 16 17 to 27 17 to 27	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
igh speed cylinder ICA Rodless cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100	3 to 9 3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24 26.5 to 45.5 25.5 to 40.5	6 to 10 6 to 10.5 Foximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch of 12) 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27 16.5 to 40 21.5 to 36 Foximity switt	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
ligh speed cylinder ICA Rodless cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 ● Applicab Ø12	3 to 9 3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24 26.5 to 45.5 25.5 to 40.5	6 to 10 6 to 10.5 OXIMITY SWIT 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (inity switch of the second	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
ligh speed cylinder ICA Rodless cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100	3 to 9 3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24 26.5 to 45.5 25.5 to 40.5	6 to 10 6 to 10.5 Foximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch of 12) 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27 16.5 to 40 21.5 to 36 Foximity switt	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
ligh speed cylinder ICA Rodless cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 ● Applicab Ø12	3 to 9 3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24 26.5 to 45.5 25.5 to 40.5	6 to 10 6 to 10.5 OXIMITY SWIT 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (inity switch of the second	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
ligh speed cylinder ICA Rodless cylinder	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 Ø12 Ø16	3 to 9 3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24 26.5 to 45.5 25.5 to 40.5	6 to 10 6 to 10.5 oximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 vimity switch 4 to 12 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27 16.5 to 40 21.5 to 36 oximity switt 2 to 7 2 to 7	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
ligh speed cylinder ICA Rodless cylinder SRL3	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 Ø12 Ø16 Ø20	3 to 9 3 to 9 3 to 9 6 to 14 6 to 14 7 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11 to 24 11 to 24 26.5 to 45.5 25.5 to 40.5	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch of the second	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5_) I-1551
ligh speed cylinder ICA Rodless cylinder SRL3	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø10 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 T ● Applicab Ø12 Ø16 Ø20 Ø25	3 to 9 3 to 9 3 to 9 3 to 9 a to 9 a to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 e switch: Prox 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11.5 to 17.5 11.5 to 17.5 11.5 to 45.5 25.5 to 40.5 ble switch: Prox - - - - - -	6 to 10 6 to 10.5 roximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch) 4 to 12 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27 17 to 27 16.5 to 40 21.5 to 36 roximity switt 2 to 7 2 to 7 3 to 8 3 to 10	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5[])
ligh speed cylinder ICA Rodless cylinder SRL3	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø100 Ø100 Ø12 Ø13 Ø40 Ø50 Ø63 Ø80 Ø100 Ø12 Ø16 Ø20 Ø25 Ø32	3 to 9 3 to 9 3 to 9 3 to 9 a to 9 a to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 e switch: Prov 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11.5 to 17.5 11.5 to 17.5 11.5 to 45.5 25.5 to 40.5 b e switch: Prov - - - - - - - - - -	6 to 10 6 to 10.5 roximity swit 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch of the second	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5_) I-1551
ICM Igh speed cylinder ICA Rodless cylinder SRL3 Rodless cylinder SRL3	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø10 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50	3 to 9 3 to 9 3 to 9 3 to 9 a to 9 a to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 e switch: Prov 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11.5 to 17.5 11.5 to 17.5 11.5 to 45.5 25.5 to 40.5 b e switch: Prov - - - - - - - - - - - - -	6 to 10 6 to 10.5 FOXIMITY SWITE 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch of 12 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27 16.5 to 40 21.5 to 36 (FOXIMITY SWITE 2 to 7 2 to 7 3 to 8 3 to 10 3 to 10 4 to 11 9 to 16 (FOXIMITE STATE) (FOXIMITE STATE) (FOXI	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5_) I-1551
ligh speed cylinder ICA Rodless cylinder SRL3	Ø40 Ø50 Ø63 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø50 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63 Ø80 Ø100 ● Applicabl Ø12 Ø16 Ø20 Ø25 Ø32 Ø40	3 to 9 3 to 9 3 to 9 3 to 9 a to 9 a to 14 6 to 14 6 to 14 6 to 14 6 to 14 6 to 14 e switch: Prov 4 to 13 4 to 13 9.5 to 15.5 7.5 to 15 11.5 to 17.5 11.5 to 17.5 11.5 to 17.5 11.5 to 45.5 25.5 to 40.5 b e switch: Prov - - - - - - - - - - - - -	6 to 10 6 to 10.5 roximity switt 11 to 18 11 to 18 11 to 18 11 to 18 11 to 18 (imity switch of 12) 4 to 12 4 to 12 4 to 12 9 to 14 8 to 14 10 to 16.5 17 to 27 17 to 27 16.5 to 40 21.5 to 36 roximity switt 2 to 7 2 to 7 3 to 8 3 to 10 3 to 10 4 to 11	ch (R1, R2, 1.5 or less (M2□, M3□, 1.5 or less 1.5 or less 1.5 or less 2.0 or less 2.0 or less 2.0 or less 2.5 or less 2.5 or less 3.0 or less 3.0 or less	R3, R2Y, R3 1.0 or less M3P□, M2WV 1.0 or less 1.0 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 1.5 or less 3.0 or less 2.5 or less T3W□, T2Y 1.0 or less	6 to 14 7 to 15 3Y), reed switch (7 to 14 8 to 13 9 to 14 9 to 14 9 to 14 /, M3WV), reed swi 3 to 11 3 to 11 3 to 11 3 to 11 8.5 to 13.5 7 to 13.5 10 to 16 17 to 27 20.5 to 41 24 to 37	R0, R4, F 3.0 or less tch (M0_, 3.0 or less 3.5 or less 3.0 or	R5, R6 I-959 M5_) I-1551

Cylinder switch Operating range, hysteresis

Operating range	and hyster	esis of ea			h switch			(Unit: mr
	Bore			ty switch		Reed switch	<u>1</u>	_
Model No.	size		ng range	Hyste		Operating range	Hysteresis	Page
	(mm)			1-color type				
High precision guided odless cylinder	● Applicab ,M5⊡)	le switch: Pi	oximity swit	tch (M2∐, M	3∐, M3P∐,	M2WV, M3WV), r	eed swite	ch (M0∟
	ø12	4 to 13	4 to 12	4.5	1.0.00	3 to 11		
SDC2	ø16	4 to 13	4 to 12	1.5 or less	1.0 or less	3 to 11	3.0 or less	I-1627
SRG3	ø20	9.5 to 15.5	9 to 14	2.0 or loss	1.5.05.000	3 to 11	1633	1-1027
	ø25	9.5 to 15.5	9 to 14	2.0 or less	1.5 or less	8.5 to 13.5	3.5 or less	
High precision guided odless cylinder	 Applicab 	le switch: Pr	oximity swit	tch (T2W⊡, ⁻	T3W⊡, T2Y	D)		
	ø12	-	2 to 7		1.0 or 1000			
SRG3	ø16	-	2 to 7] -	1.0 or less			I-1627
SKGS	ø20	-	3 to 8		1.5 or less	-	-	1-1027
	ø25	-	3 to 10	_	1.5 01 1655			
High precision guided rodless cylinder	ø25		ed switch (1 6 to 9	tch (T2Y⊡, 1 Г0⊡, T5⊡, T		5.5 to 11		
SRM3	ø32	-	6.5 to 9	-	1.0 or less	5.5 to 10	2.0 or	I-1655
	ø40	-	7.5 to 10.5			5.5 to 9	less	
	ø63	-	8 to 11			5.5 to 10		
Rodless cylinder with brake		e switch: Pro	kimity switch	(M2⊡, M3⊡, ∣	M3P_, M2W	V, M3WV), reed swit	ch (M0⊡,	M5□)
	ø12	4 to 13	4 to 12			3 to 11	3.0 or	
	ø16	4 to 13	4 to 12	1.5 or less	1.0 or less	3 to 11	less	
	ø20	4 to 13	4 to 12			3 to 11		
SRT3	ø25	9.5 to 15.5	9 to 14			8.5 to 13.5		I-1685
51(15	ø32	7.5 to 15	8 to 14			7 to 13.5	3.5 or	1 1000
	ø40	11.5 to 17.5	10 to 16.5	2.0 or less	1.5 or less	10 to 16	less	
	ø50	16.5 to 24	14 to 21			14.5 to 21.5		
	ø63	16 to 24	14 to 21			14 to 21.5		
Rodless cylinder		le switch: Pr	-	tch (T2W⊡, [°]	T3W⊡, T2Y	D)		
	ø12	-	2 to 7	-	1.0 or less			
	ø16	-	2 to 7					
	ø20	-	3 to 8					
SRT3	ø25	-	3 to 10			-	-	I-1685
	ø32	-	3 to 10	- 1	1.5 or less			
	ø40	-	4 to 11	4				
	ø50	-	9 to 16	-				
	ø63	-	9 to 16					
Magnet rodless cylinder	Applicab	le switch: Pro	oximity switc	h (T2⊡, T3⊡], T3P[], T2V	V□, T3W□, T2Y□,	T3Y□, T	1_)
oymnaon	ø6	2 to 5	5.5 to 6.5					
oyiiridor		2.5 to 5.5	6 to 7.5	l				
	ø10			-				I-1713
	ø10 ø16	2 to 5	5.5 to 7	1 0 or loss	1 0 or less	-		1113
			5.5 to 7 6 to 5.5	1.0 or less	1.0 or less	-	_	
	ø16	2 to 5		1.0 or less	1.0 or less	-		
	ø16 ø20	2 to 5 2 to 5	6 to 5.5	1.0 or less	1.0 or less	-		
MRL2 Magnet rodless cylinder	Ø16 Ø20 Ø25 Ø32	2 to 5 2 to 5 2 to 5 2 to 4.5 le switch: Pro	6 to 5.5 6 to 5.5 5.5 to 6.5 oximity swite	ch (T2⊡, T3⊡				-1 <u>),</u>
MRL2 Magnet rodless cylinder	Ø16 Ø20 Ø25 Ø32 Ø32	2 to 5 2 to 5 2 to 5 2 to 4.5 le switch: Prirret	6 to 5.5 6 to 5.5 5.5 to 6.5 oximity switc ed switch (Te	ch (T2⊡, T3⊡		· · · ·	ТЗҮ_, Т	1 □),
MRL2 Magnet rodless cylinder with high precision guide MRG2	Ø16 Ø20 Ø25 Ø32	2 to 5 2 to 5 2 to 5 2 to 4.5 le switch: Pro	6 to 5.5 6 to 5.5 5.5 to 6.5 oximity swite	ch (T2⊡, T3⊡		- ₩_, T3₩_,T2Y_, 6.5 to 7.5 7 to 8		

	una nyotoi	esis of ead	ch cylinder	model wit	th switch			(Unit: mn
	Bore					Reed switch		
Model No.	size (mm)	Operatir 1-color type	ig range 2-color type		eresis 2-color type	Operating range	Hysteresis	Page
Clamp cylinder	Applicable sw	vitch: Proximity swit	ch (T2□, T3□, T3	P□, T2J□, T2W□,	T3W□, T2Y□, T3	Y, T2YD, T1), reed switch	h (T0⊡, T5⊡,	T8_)
	ø40	2 to 6.5	5.7 to 6.5			6.7 to 10.8		
CAC4	ø50	2.5 to 6.0	5.9 to 6.8	1.5 or less	1.0 or less	7.8 to 11.3	3 or less	11 090
CAC4	ø63	2.5 to 6	6.1 to 6.8	1.5 01 1655	1.0 01 1655	8.2 to 11.4	5 01 1855	11-909
	ø80	3 to 7	7.7 to 8.5			9 to 10.9		
Clamp cylinder	Applicab	le switch: Re	ed switch f	or strong ma	agnetic field	(H0 <u></u>)		
	ø40					6.7 to 10.8		
CAC412	ø50					7.8 to 11.3	0.000	
CAC4-L2	ø63	-		-	-	8.2 to 11.4	3 or less	11-989
	ø80					6.6 to 7.5		
Clamp cylinder	Applicable sv	vitch: Proximity swit	:ch (T2□, T3□, T3	P□, T2J□, T2W□,	T3W_, T2Y_, T3	Y _, T2YD, T1 _), reed switch	h (T0 <u></u> , T5 <u></u> ,	T8_)
	ø50	2.5 to 6.0	5.9 to 6.8	4 C an land	1.0 en less	7.8 to 11.3	2	11 4 0 4 0
UCAC2	ø63	2.5 to 6.5	6.1 to 6.8	1.5 or less	1.0 or less	8.2 to 11.4	3 or less	11-1013
Clamp cylinder	Applicab	le switch: Re	eed switch for	or strong ma	agnetic field	(H0_)		
UCAC2-L2	ø50			_	_	7.8 to 11.3	3 or less	II-1013
UCACZ-LZ	ø63			_	_	8.2 to 11.4	5 01 1635	11-1013
Lightweight clamp cylinder	r Applicable s 	witch: Proximity	switch (T2□, T3	□, T3P□, T2J□	, T2Y_, T3Y_, 1	T2YD, T1), reed switch	(T0□, T5□,	T8_)
CAC	ø32	2.5 to 6	3.5 to 8	1.5 or less	1.0 or less	6.5 to 11.5	3 or less	II-1027
	ø40	3 to 7	4 to 9			7.5 to 13.5		
Desition looking, lightweight eleme eulinder	Applicable	witch: Drovimity	owitch (TO TO			Γ2YD, T1), reed switch		
Position locking, lightweight clamp cylinder	1	· · · · ·		∟, IJF∟, IZJ∟		IZTI I I I TEEU SWIICH		
UCAC					, <u> </u>	,	(10⊡, 10⊡,	,
	ø32	2.5 to 6	3.5 to 8	1.5 or less	1.0 or less	6.5 to 11.5	3 or less	,
	ø32 ø40	2.5 to 6 3 to 7	3.5 to 8 4 to 9	1.5 or less		,		
Rotary clamp cylinder	ø40	3 to 7	4 to 9		1.0 or less	6.5 to 11.5 7.5 to 13.5	3 or less	II-1027
Rotary clamp cylinder	ø40	3 to 7 switch: Proximity	4 to 9 ∕ switch (T2□" T		1.0 or less	6.5 to 11.5 7.5 to 13.5	3 or less	II-1027
Rotary clamp cylinder	ø40 • Applicable • ø12	3 to 7 switch: Proximity 1.5 to 5.5	4 to 9 ∕ switch (T2□,, T 3 to 6		1.0 or less	6.5 to 11.5 7.5 to 13.5 □, T2YD, T1□,), reed swi 5 to 8	3 or less	II-1027
Rotary clamp cylinder	ø40 ▲ Applicable = ø12 ø16	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5	4 to 9 4 switch (T2□,, T 3 to 6 3 to 7		1.0 or less	6.5 to 11.5 7.5 to 13.5 , T2YD, T1□,), reed swi 5 to 8 4 to 9	3 or less	II-1027
Rotary clamp cylinder	ø40 ▲ Applicable = ø12 ø16 ø20	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8	4 to 9 y switch (T2_,, T 3 to 6 3 to 7 4.5 to 8		1.0 or less	6.5 to 11.5 7.5 to 13.5 , T2YD, T1□,), reed swi 5 to 8 4 to 9 6 to 14	3 or less	II-1027
	Ø40 ● Applicable = Ø12 Ø16 Ø20 Ø25	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9	4 to 9 7 switch $(T2\Box_n T$ 3 to 6 3 to 7 4.5 to 8 4.5 to 8		1.0 or less	6.5 to 11.5 7.5 to 13.5 $n, T2YD, T1 \square_{i}$, reed swite 5 to 8 4 to 9 6 to 14 5 to 14	3 or less	II-1027
	Ø40 ● Applicable Ø12 Ø16 Ø20 Ø25 Ø32	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8	$\begin{array}{c} 4 \text{ to } 9 \\ 7 \text{ switch } (T2 \n T \\ 3 \text{ to } 6 \\ 3 \text{ to } 7 \\ 4.5 \text{ to } 8 \\ 4.5 \text{ to } 8 \\ 4.5 \text{ to } 8 \end{array}$	'3□" T3P□" T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 $n, T2YD, T1 \square_{,}$, reed swite 5 to 8 4 to 9 6 to 14 5 to 14 5 to 14 5 to 12	3 or less	II-1027
	Ø40 ● Applicable Ø12 Ø16 Ø20 Ø25 Ø32 Ø40	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9	4 to 9 7 switch (T2, , T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5	'3□" T3P□" T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7,5 to 13.5 7,5 to 8 5 to 8 4 to 9 6 to 14 5 to 14 5 to 12 6 to 14	3 or less	II-1027
	Ø40 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 9 3 to 9	4 to 9 7 switch (T2[,, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5	'3□" T3P□" T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7,5 to 13.5 7,5 to 13.5 7,5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 14 5 to 12 6 to 14 6 to 14 6 to 14	3 or less	II-1027
	Ø40 ● Applicable Ø12 Ø16 Ø20 Ø25 Ø32 Ø40	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9	4 to 9 7 switch (T2, , T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5	'3□" T3P□" T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7,5 to 13.5 7,5 to 8 5 to 8 4 to 9 6 to 14 5 to 14 5 to 12 6 to 14	3 or less	II-1027
RCS2	ø40 ● Applicable ø12 ø16 ø20 ø25 ø32 ø40 ø50 ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 9 3 to 9 3 to 9 3 to 9	4 to 9 y switch (T2□,, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5	3_, T3P_, T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7,5 to 13.5 7,7 to 13.5 7,7 to 13.5 7,7 to 9 6 to 14 5 to 14 6 to 14 6 to 14 6 to 14 7 to 15	3 or less tch (T0, T 3 or less	II-1027 5_,, T8_,)
RCS2	Ø40 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 9	4 to 9 / switch (T2[,, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 / switch (T2[, T 3 to 7	3_, T3P_, T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7,5 to 13.5 7,5 to 13.5 7,5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 14 5 to 14 5 to 14 6 to 14 6 to 14 7 to 15 7 to 15	3 or less tch (T0, T 3 or less	II-1027 5, T8,)
RCS2	Ø40 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 9	4 to 9 7 switch (T2],, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 7 switch (T2], T 3 to 7 4.5 to 8	3_, T3P_, T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 14 5 to 14 6 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 9 6 to 14	3 or less tch (T0, T 3 or less	II-1027 5 ,, T8 ,)
RCS2	Ø40 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 9	4 to 9 / switch (T2],, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 7 switch (T2], T 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5.5 to 9.5 5.5 to 9.5 7 switch (T2], T 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5.5 to 9.5 5.5 to 9.5	3_,, T3P_,, T2J 1.5 or less 3_, T3P_, T2V	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 14 5 to 14 6 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 9 6 to 14 5 to 14 5 to 14 5 to 14	3 or less tch (T0, T 3 or less witch (T0	II-1027 5 ,, T8 ,)
RCS2	ø40 ø12 ø16 ø20 ø25 ø32 ø40 ø50 ø63 ø16 ø20 ø32 ø40 ø50 ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8	4 to 9 / switch (T2],, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 y switch (T2], T 3 to 7 4.5 to 8 4.5	3_, T3P_, T2J	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 8 4 to 9 6 to 14 5 to 14 5 to 12 6 to 14 6 to 14 7 to 15 7 to 15 7 to 15 4 to 9 6 to 14 5 to 15 7 to 14 5 to 15 7 to 14 5 to 12 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 1	3 or less tch (T0, T 3 or less	II-1027 5 ,, T8 ,)
RCS2	ø40 ø12 ø16 ø20 ø25 ø32 ø40 ø50 ø63 Ø16 ø20 ø32 ø40	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 9 3 to 8 3 to 9 3 to	4 to 9 / switch (T2],, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 / switch (T2], T 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5 to 7 4.5 to 8 5 to 7 5.5 to 9.5 5.5 to 8 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 8 5.5 to	3_,, T3P_,, T2J 1.5 or less 3_, T3P_, T2V	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 8 4 to 9 6 to 14 5 to 12 6 to 14 5 to 12 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 14 5 to 14 5 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 14 5 to 12 6 to 14 5 to 12 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 12 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 7 to 15 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 15 7 to 14 7 to 15 7 to 15 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 12 6 to 14	3 or less tch (T0, T 3 or less witch (T0	II-1027 5 ,, T8 ,)
Rotary clamp cylinder RCS2 Rotary clamp cylinder RCC2	Ø40 Ø12 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 9 3 to 8 3 to 9 3 to 9	4 to 9 7 switch $(T2_n, T3 to 6)$ 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 7 switch $(T2_n, T3 to 7)$ 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 to 9.5 5.5 to 9.5 to 9.5 to 9.5	3_,, T3P_,, T2J 1.5 or less 3_, T3P_, T2V	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 12 6 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 6 to 14 5 to 14 5 to 14 5 to 14 6 to 14 5 to 12 6 to 14 6 to 14 5 to 12 6 to 14 6 to 14 5 to 12 6 to 14 6 to 14 6 to 14 6 to 14 7 to 15 7 to 14 6 to 14 6 to 14 6 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15	3 or less tch (T0, T 3 or less witch (T0	II-1027 5 ,, T8 ,)
RCS2	ø40 ø12 ø16 ø20 ø25 ø32 ø40 ø50 ø63 Ø16 ø20 ø32 ø40	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 9 3 to 8 3 to 9 3 to	4 to 9 / switch (T2],, T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 / switch (T2], T 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5 to 7 4.5 to 8 5 to 7 5.5 to 9.5 5.5 to 8 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 9.5 5.5 to 8 5.5 to	3_,, T3P_,, T2J 1.5 or less 3_, T3P_, T2V	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 8 4 to 9 6 to 14 5 to 12 6 to 14 5 to 12 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 14 5 to 14 5 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 14 5 to 12 6 to 14 5 to 12 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 12 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 5 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 14 7 to 15 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 15 7 to 14 7 to 15 7 to 15 7 to 15 7 to 14 7 to 15 7 to 14 7 to 15 7 to 12 6 to 14	3 or less tch (T0, T 3 or less witch (T0	II-1027 5.,, T8.,) , T5.)
RCS2	Ø40 Ø12 Ø16 Ø20 Ø32 Ø40 Ø50 Ø63 Ø16 Ø20 Ø40 Ø50 Ø63 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 9 3 to 8 3 to 9 3 to	4 to 9 7 switch (T2 \square , T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 7 switch (T2 \square , T 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5.5 to 9.5 5.5 t	3_, T3P_, T2J 1.5 or less 3_, T3P_, T2V 1.5 or less	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 12 6 to 14 5 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 12 6 to 14 5 to 14 5 to 14 5 to 14 5 to 14 5 to 14 7 to 15 7 to 15	3 or less tch (T0, T 3 or less witch (T0 3 or less	II-1027 5 , T8 ,) , T5) II-1047
RCS2 Rotary clamp cylinder RCC2	Ø40 Ø12 Ø16 Ø20 Ø32 Ø40 Ø50 Ø63 Ø16 Ø20 Ø40 Ø50 Ø63 Ø16 Ø20 Ø25 Ø32 Ø40 Ø50 Ø63	3 to 7 switch: Proximity 1.5 to 5.5 1.5 to 4.5 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to 8 3 to 9 3 to	4 to 9 7 switch (T2 \square , T 3 to 6 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 5 to 8.5 5.5 to 9.5 5.5 to 9.5 7 switch (T2 \square , T 3 to 7 4.5 to 8 4.5 to 8 4.5 to 8 4.5 to 8 5.5 to 9.5 5.5 t	3_, T3P_, T2J 1.5 or less 3_, T3P_, T2V 1.5 or less	1.0 or less	6.5 to 11.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 7.5 to 13.5 5 to 8 4 to 9 6 to 14 5 to 14 5 to 14 6 to 14 7 to 15 7 to 15 7 to 12 6 to 14 5 to 14 7 to 15 7 to 15 7 to 15 7 to 15 7 to 15 7 to 12 6 to 14 5 to 14 5 to 14 5 to 14 5 to 14 5 to 14 7 to 15 7 to 15	3 or less tch (T0, T 3 or less witch (T0 3 or less	II-1027 5, T8,), , T5,) II-1047 T5,)

Cylinder switch Operating range, hysteresis

	Bore			model wit		Reed switc	h	
Model No.	size	Operatir		Hyste	eresis			Page
	(mm)			1-color type		Operating range	Hysteresis	Ŭ
High power cylinder	Applicab	le switch: Pr	oximity swit	ch (R1, R2,	R3, R2Y, R	3Y), reed switch (I	R0, R4, F	R5, R6)
	ø40	6.5 to			, ,	9.5 to 12.5		, ,
		ø50 8 to 12.5				10.5 to 14.5	1	
SHC	ø63			1.5 o	less	10.5 to 14.5	3.0 or	II-1095
	ø80	8 to				11.5 to 15.5	less	
-	ø100		0 14			12 to 16	1	
ligh power cylinder	Applicab	le switch: Re	eed switch (H0)				
	ø40					4 to 7		1
	ø50					5 to 7.5		
SHC-L2	ø63	1.	-	-		5 to 8	3.0 or	II-1095
	ø80					5 to 8	less	
	ø100	1				5 to 8		
Mechanical power cylinder	Applicable s	witch: Proximity sv	witch (T2□, T3□,	T3P□, T2J□, T2\	V□, T3W□, T2Y□		h (T0□, T5∟	l, T8⊡)
MCP-S	2t	4 to 10	6 to 10	1.5 or less	1.0 or less	7 to 15	3 or less	
	5t	4 to 10	8 to 10	1.0 01 1035	1.0 01 1035	9 to 15	0 01 1033	II-1033
MCP-W (rapid feed part)	2t	3.5 to 6.0	4.6 to 9.2	1.5 or less	1.0 or less	7.6 to 12.8	3 or less	11-1000
ion - w (rapid reed part)	5t	4.0 to 8	5.5 to 11.9	1.0 01 1000	1.0 01 1000	8.9 to 14.1		
Guideless cylinder	Applicat	le switch: Pr	oximity swit	rch (R1 R2	R3 R2Y R	3Y), reed switch (F	R0 R4 P	R5 R6)
	ø40	1	07 17		NO, NZ I, N	11.5 to 16.5	(, , , , ,)	(0, 1(0)
,	ø40 ø50	9 to	0			13 to 18	1	
GLC	ø63	10 to		150		15 to 20	3.0 or	II-1151
GLC	ø80	8 to		1.5 or less		15 to 20	less	11-1151
	ø100	11 to				13.5 to 19	-	
Cuidalaaa aylindar		1				15.5 10 19		
Guideless cylinder		He Switch: Re	eed switch (HU)			1	1
r	ø40	-				4 to 9		
	ø50	4				4 to 9	3.0 or	
GLC-L2	ø63	-		-		4 to 10	less	II-1151
	ø80	4				5 to 11		
	ø100	<u> </u>				5 to 11		
Rotary actuator	Applicable	switch: Proximit	v switch (T2 .	T3	W□. T2Y□. T3`	Y□, T1□), reed switch (T0 . T5 .	T8)
	8	15° to 60°	20° to 70°		_, _,	70° to 90°	_, _,	
RRC		10° to 30°	10° to 30°			30° to 40°	1	11 40 44
RRC	32	1 10 10 30		-	-	30 10 40	-	11-1241
	32 63	10° to 30°	10° to 30°	-	-	30° to 40°	-	II-1241
Table rotary actuator	63	10° to 30°	10° to 30°		, T2W, [_]		<u></u>	
Table rotary	63	10° to 30°	10° to 30°		_ , T2W, [_]	30° to 40°	/, T1;	
Table rotary	63 • Applicab	10° to 30°	10° to 30° roximity swit		, T2W, [_]	30° to 40°	/, T1;	
Table rotary actuator	63 • Applicab 5	10° to 30° ble switch: Pr 10° to 35°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35°		_, T2W_, ⁻	30° to 40°	/, T1;)
Table rotary actuator	63 • Applicab 5 10	10° to 30° ble switch: Pr 10° to 35° 5° to 30°	10° to 30° roximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25°	- ch (T2⊡, T3	_, T2W_, ⁻	30° to 40°	/, T1;	
Table rotary actuator	63 • Applicab 5 10 20	10° to 30° ble switch: Pr 10° to 35° 5° to 30° 10° to 35°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35°	- ch (T2⊡, T3	_, T2W_, ⁻	30° to 40°	/, T1; /, T1;)
Table rotary actuator	63 • Applicab 5 10 20 30	10° to 30° ble switch: Pr 10° to 35° 5° to 30° 10° to 35° 5° to 25°	10° to 30° roximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25°	- ch (T2⊡, T3	_, T2W_, ⁻	30° to 40°	, T1,)
Table rotary actuator GRC	63 • Applicab 5 10 20 30 50 80 • Applicab	10° to 30° ole switch: Pr 10° to 35° 5° to 30° 10° to 35° 5° to 25°	10° to 30° roximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25°	-	_, T2W_, ⁻	30° to 40°	, T1,)
Table rotary actuator GRC	63 ● Applicab 5 10 20 30 50 80 ● Applicab 3	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° 5° to 25° -	- 	_, T2W_, ⁻	30° to 40°	, T1,) II-1255
Table rotary actuator GRC	63 • Applicab 5 10 20 30 50 80 • Applicab 3 10	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 10° to 35° 5° to 25° 5° to 25° 15°±7° 15°±7°	10° to 30° roximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25°	-	_, T2W_, ⁻	30° to 40°	, T1,)
Table rotary actuator GRC	63 • Applicab 5 10 20 30 50 80 • Applicab 3 10 20	10° to 30° le switch: Pr 10° to 35° 5° to 30° 10° to 35° 5° to 25° 5° to 25° 5° to 25° 5° to 25° ble switch: Pr 15°±7° 15°±7° 15°±7°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° 5° to 25° -	- 	_, T2W_, - _	30° to 40°	, T1,) II-1255
Fable rotary actuator GRC Compact rotary actuator RV3*	63 ● Applicab 5 10 20 30 50 80 ● Applicab 3 10 20 30	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 5° to 25° 5° to 25° 5° to 25° 0le switch: Pr 15°±7° 15°±7° 15°±7°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity swit - - - -	cch (SR-⊡) 3° or less	_, T2W_, ⁻	30° to 40°	, T1,) II-1255
Table rotary actuator GRC Compact rotary actuator RV3*	63 ● Applicab 5 10 20 30 50 80 ● Applicab 3 10 20 30	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 5° to 25° 5° to 25° 5° to 25° 0le switch: Pr 15°±7° 15°±7° 15°±7°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity swit - - - -	cch (SR-⊡) 3° or less	_, T2W_, ⁻	30° to 40°	, T1,) II-1255
Table rotary actuator GRC Compact rotary actuator RV3* Compact rotary actuator	63 Applicab 5 10 20 30 50 80 Applicab 3 10 20 30 Applicab 3 10 20 30 Applicab	10° to 30° ole switch: Pr 10° to 35° 5° to 30° 10° to 35° 5° to 25° 15°±7° 15°±7° 15°±7° 15°±7° 5° 15°±7°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity swit - - - -		_, T2W_, ⁻	30° to 40°) II-1255 II-1293
Table rotary actuator GRC Compact rotary actuator RV3* Compact rotary actuator	63 ● Applicab 5 10 20 30 50 80 ● Applicab 3 10 20 30 ● Applicab 3 10 20 30 ● Applicab	10° to 30° ole switch: Pr 10° to 35° 5° to 30° 10° to 35° 5° to 25° 0le switch: Pr 15°±7° 15°±7° 15°±7° 0le switch: Pr 23°±7°	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity swit - - - - - - - - - - - - -	cch (SR-⊡) 3° or less	_, T2W_, ⁻	30° to 40°) II-1255
Table rotary actuator GRC Compact rotary actuator RV3* Compact rotary actuator	63 Applicab 5 10 20 30 50 80 Applicab 3 10 20 30 Applicab 3 10 20 30 Applicab 3 10 10 20 30 Applicab 3 10 10 10 10 10 10 10 10 10 10 10 10 10	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 15° ±7° <t< td=""><td>10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity swit - - - - - - - - - - - - -</td><td></td><td>- - -</td><td>30° to 40°</td><td></td><td>) II-1255 II-1293</td></t<>	10° to 30° oximity swit 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity swit - - - - - - - - - - - - -		- - -	30° to 40°) II-1255 II-1293
Table rotary actuator GRC Compact rotary actuator RV3* Compact rotary actuator RV3*	63 Applicab 5 10 20 30 50 80 Applicab 3 10 20 30 Applicab	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 0le switch: Pr 23° ±7° 23° ±7° 23° ±7° 23° ±7° 0le switch: Pr	10° to 30° oximity switt 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity switt - - - - - - - - - - - - -	cch (SR-□) 3° or less cch (FR-□) 2° or less	-	30° to 40° T3W□, T2Y□, T3Y - - reed switch (M0V,	-) II-1255 II-1293
Table rotary actuator GRC Compact rotary actuator RV3* Compact rotary actuator RV3*	63 Applicab 5 10 20 30 50 80 Applicab 3 10 20 30 Applicab 3 10 20 30 Applicab 3 10 20 30 Applicab 50	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 0le switch: Pr 15°±7° 15°±7° 15°±7° 23°±7° 23°±7° 23°±7° 0le switch: Pr 23°±7° 0le switch: Pr Approx. 40°	10° to 30° oximity switt 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity switt - - - - - - - - - - - - -	cch (SR-□) 3° or less cch (FR-□) 2° or less	-	30° to 40° T3W□, T2Y□, T3Y - - reed switch (M0V, Approx. 25°	-) II-1255 II-1293
Table rotary	63 Applicab 5 10 20 30 50 80 Applicab 3 10 20 30 Applicab	10° to 30° 10° to 35° 5° to 30° 10° to 35° 5° to 25° 0le switch: Pr 23° ±7° 23° ±7° 23° ±7° 23° ±7° 0le switch: Pr	10° to 30° oximity switt 30° to 40° 20° to 30° 25° to 35° 15° to 25° 15° to 25° 15° to 25° roximity switt - - - - - - - - - - - - -	cch (SR-□) 3° or less cch (FR-□) 2° or less	-	30° to 40° T3W□, T2Y□, T3Y - - reed switch (M0V,	- - M5V)) II-1255 II-1293

CKD Ending 41

CAUTION Relocation of switch

Tie rod mounting

Loosening the two set screws for fixing the mounting base by 1/2 to 3/4 turns allows you to move the switch axially without fallout.

After adjustment, lightly press the holder so that the switch contacts the tube, and tighten the set screw.

Tightening torque is 1.7 to 2.0 N·m. It is tightened enough if the Allen wrench begins to bend.



Band mounting

Loosen the fixing screw (pan head machine screw), move the body and band along the cylinder tube, and tighten the screw at the specified position. For fine adjustment, fix the band position and move only the switch body. Tightening torque is 0.5 to 0.7N·m. Tightening torque for HCA ø80 and ø100 is 1.0 to 1.5 N·m.



Band mounting

(1) When moving the switch position to the stroke direction

- The 1-color LED switch can be fine-tuned by ±3 mm from the default. If the adjusting range exceeds ±3 mm, or when fine-tuning the 2-color LED switch, move the band position.
- The switch bracket rail has a marking 4 mm from the rail end. Use as a guide to the mounting position when replacing the switch. Switch rail markings are set to the default switch max. sensitivity position. The max. sensitivity position will change when the switch is changed or when the band is moved. Adjust the position accordingly in this case.



- (2) When moving the switch position to the circumferential direction
 Loosen the band fixing screw, shift the switch rail in the
- circumferential direction, then tighten at the specified position. Tightening torque is 0.8 to 1.0 N·m.
- (3) Shifting the band position
- Loosen the band fixing screw, shift the switch rail and band along the cylinder tube, and tighten at the specified position. Tightening torque is 0.8 to 1.0 N·m.



Switch groove mounting

Loosen the fixing screw (set screw), move the switch body along the switch groove, and tighten the screw at the specified position. When using T2, T2W, T3, T3W, T0, T5, K2, K3, K0 or K5, use a flathead screwdriver (clockwork screwdriver, precision screwdriver, etc.) with a 5 to 6 mm grip diameter, a 2.4 mm or smaller tip and thickness 0.3 mm or less to tighten the screws with a tightening torque of 0.1 to 0.2 N·m.

When using T*C, T2J, T2Y, T3Y, K2Y, K3Y, T2YD, T1, T8, T2YL, T3YL or ET0, tighten with a tightening torque of 0.5 to 0.7 N·m. When using F2*, F3*, F2Y* or F3Y*, tighten with a tightening torque of 0.03 to 0.08 N·m.

Ending

Ending 42 CKD

Cylinder switch Relocation of switch

T2YD Tie rod mounting

(1) Fine adjustment

Loosen the slotted hex socket bolt (\widehat{A}) , move only the switch body, and fix at the required position. Tightening torque is 0.5 to 0.7 N·m.

(2) Rough adjustment

Completely loosen the slotted bolt (A) and set screws, and move the entire mounting bracket to the required position. Tighten the slotted bolt (A). Tightening torque is 0.5 to 0.7 N·m. Then tighten the set screw. Tightening torque is 1.7 to 2.0 N·m.





Notes for contact protection circuits (SKAC and SKDC)

If a reed switch is used and load falls under any of the following conditions, the contact may be kept on and the service life may become shorter. To prevent that, connect a contact protection circuit within 2 m from the switch.

- When the work load is an inductive load (relay, valve, etc., (coil-drive load)) or capacitance load (programmable controller, etc., (load including capacitor))
- When the lead wire lengths are as follows
 - 12 VDC
 : 100 m or more

 24 VDC
 : 50 m or more

 100 VAC
 : 20 m or more
 - 200 VAC : 10 m or more
- When overvoltage or overcurrent may occur due to other causes

For details on contact protection circuits, refer to Ending Page 27.

How to install the product to R*B terminal box

See the figure below and follow the following procedure to connect with the $\mathsf{R}^*\mathsf{B}$ terminal box.

- (1) Remove the fixing screw completely and pull out the terminal box from the switch.
- (2) Push out the pin support from the top of the case to separate the case and pin support.
- (3) Remove the cap and take out the washer and gasket.
- $\ensuremath{\left(4\right)}$ Determine the direction to draw the lead wire from the terminal box.
- (5) Refer to the top view of the case mounting orientation, and cut the lead wire based on the lead-out direction. Then strip the seal/sheath.
 (2) Origina the included topping.
- (6) Crimp the included terminal.
- (7) Pass the lead wire through in the sequence of cap, washer, gasket, and case with attention to the orientation. Insert the lead wire into the case and pull it out with needle-nose pliers.
- (8) Insert the terminal into the pin support and at the same time, push them into the case making sure of their direction. Push them until the upper end rib of the pin support comes out of the top of the case.
- (9) Insert the fixing screw into the case and pin support.
- (10) Insert the gasket and washer into the case and fix them by tightening the cap.
- (11) Set the case to the switch terminal and fix it with the fixing screw.

Lead cutting length

The lead cutting length differs with the case mounting orientation. Refer to the following table.





How to install the product to E0 terminal box



When selecting a cylinder switch, first, check whether reed or proximity switch is used, then follow the selection chart below.

Cylinder switch selection chart



Troubleshooting [Cylinder switch] (1)

Trouble		Cause		Factor	
The switch remains		Load was short-circuited.		Internal circuit damage of switch	
ON and output does					
not stop		A load current exceeding catalog value was conducted	-		
* Load		A load voltage or power supply voltage			
· Programmable		exceeding catalog values was applied			
controller · Relay		The connection is incorrect		- Malfunction caused by miswiring	
· Others				Internal circuit damage caused by	
				mis-wiring (AC, DC, polarity, etc.)	
		Long wire length (refer to Intro Page 80 of the catalog)		Internal circuit damage of switch	
				······································	
		Surge voltage is generated due to connection		Internal circuit damage of switch	
		of an inductive load (relay, solenoid valve)			
		With the proximity switch, a servomotor, or		Noise is applied	
		robot, etc., may be generating noise within the same equipment			
		The power and signal cables are wired together			
		The same power supply as the noise source is used			
		The cylinder switch installation position		The position is adjusted incorrectly	
		does not match the piston stop position			
				The installation position has deviated due to a loose screw	
			L	The mounting orientation is in reverse	<u> </u>
		The ambient temperature is -10°C or less		The magnetic force of the piston	
				magnet in the cylinder has increased	
		Water or oil, etc., comes in contact with		Water or oil entered the cylinder switch	
		the cylinder switch		and damaged the internal circuit	
		Water or oil enters the relay box of the lead wire		Malfunction caused by entry of water or oil	
		and comes in contact with the terminal of the load			
		A magnetic field is generated in the area	-	Cylinder switch is reacting to an	
		 Spot welding machine Magnetizer, etc. 		external magnetic field	
		There is a magnetic substance in the area		There is an iron bolt nearby	
				- There is a magnetic substance near the cylinder switch	
				THERE IS A MAYNELIC SUDSTAILCE HEAT THE CYIINDER SWITCH	
			L	Firon chips accumulated around the	
				cylinder switch	
	∟►	External force was applied to the cylinder switch		Internal circuit damage of switch	

Troubleshooting

Countermeasures
 (1) Replace the cylinder switch and select a cylinder switch with maximum rating matching the load rating
(1) Connect correctly
 (1) Replace the cylinder switch and connect correctly
 (1) Replace the cylinder switch and wire the protective circuit (Refer to Intro Pages 80 and 82)

(1) Replace the cylinder switch and wire the protective circuit (Refer to Intro Pages 80 and 82)

(1) Add a noise filter or replace with a reed switch

(2) Separate the power cable and signal cable

(3) Separate the power source

(1) Adjust the position again

(1) Tighten within the specified tightening torque range

(1) Mount in the correct direction

(1) Raise the ambient temperature to -10°C or higher

(1) Change from standard cylinder switch to T_YL of coolant proof specifications (T-switch only)
 (2) Replace the cylinder switch, and provide a partition so that water and oil do not make excessive contact.

(1) Set a partition so water and oil do not come in contact with the relay box, or place the relay box in a waterproof box

	(1) Change to a strong magnetic field proof switch. The cylinder body must also be changed to one for strong magnetic fields
	(2) Check that magnetic fields are not applied
	a. Move the magnetic field generator away.
	b. Set a magnetic material partition between the magnetic field origin and cylinder switch
	(3) Provide magnetic shield
	(1) Replace with a stainless steel bolt
-	(2) Mount the cylinder switch on a surface distanced from the iron bolt
	(1) Separate the cylinder switch from the magnetic substance to the value recommended in the catalog
	(2) Mount the cylinder switch on a surface distanced from the magnetic substance
L.	(3) Change the magnetic substance's material to a nonmagnetic material such as stainless steel, aluminum, copper, etc.
•	(1) Remove iron chips

(1) Replace the cylinder switch and check that external force is not applied to the cylinder switch

Troubleshooting [Cylinder switch] (2)

Trouble	Cause	Factor	
The cylinder switch turns ON/OFF but the load remains ON	The relation of the cylinder switch leakage current and load input specifications is Leakage current > OFF current	The load reacts to the leakage current. Leakage current increases because of the parallel connection (Refer to Intro Page 81 of the catalog)	
]			
	The wiring poles are reversed	► Malfunction caused by miswiring	
The output correctly turns ON/OFF but	(only when using reed \Box 0 with DC).		
the indicator lamp			
does not turn on			

Countermeasures (1) Change the cylinder switch from 2 to 0 or 3 type (2) Change the cylinder switch to one with a large load OFF current value (3) Wire the bleeder resistance	
 * Select a programmable controller or relay, etc., that does not malfunction due to proximity switch leakage current. * For the load input specifications, check the model No. 	

and contact the manufacturer or CKD.

(1) Wire normally

Cylinder switch

Troubleshooting [Cylinder switch] (3)

			,
Trouble	Cause	Factor	ļ
Cylinder switch does	The applied voltage is incorrect	► Internal circuit damage of switch	
not turn ON	Load was short-circuited	Internal circuit damage of switch	
There is no output	A load current exceeding catalog value was conducted	-	
Load does not react	A load voltage or power supply voltage exceeding catalog values was applied		
* Load · Programmable	The connection is incorrect	The switch is not operational due to miswiring	
· Relay · Others		 Internal circuit damage caused by mis- wiring (AC, DC, polarity, etc.) 	
0	Excessive bending is applied to the lead wire	► Disconnection of lead wire	
	Excessive tension is applied to the lead wire	► Disconnection of lead wire	
	Long wire length	Internal circuit damage of switch	
	(refer to Intro Page 80 of the catalog)		
	Surge voltage is generated due to connection of an inductive load (relay, valve)	Internal circuit damage of switch	
	With the proximity switch, a servomotor, or robot, etc., may be generating noise within the same equipment	► Noise is applied	
	The power and signal cables are wired together	-	
	The same power supply as the noise source is used		
	The cylinder switch installation position does not match the piston stop position	The position is adjusted incorrectly	
		The installation position has deviated due to a loose screw	
		► The mounting orientation is in reverse	
	► The ambient temperature exceeds 60°C	The magnetic force of the piston magnet in the cylinder has weakened	
	Water or oil, etc., comes in contact with the cylinder switch	Water or oil entered the cylinder switch and damaged the internal circuit	
	Water or oil enters the relay box of the lead wire and comes in contact with the terminal of the load	► Internal circuit abnormality caused by entry of water or oil	
	A magnetic field is generated in the area	Cylinder switch does not react due to the	
	Spot welding machine Magnetizer, etc.	effect of peripheral magnetic fields	
1	indynouzor, c.c.		
	There is a magnetic substance in the area	► There is an iron bolt nearby	
		There is a magnetic substance near the cylinder switch	
		► Iron chips accumulated around the cylinder switch	
	External force was applied to the cylinder switch	► Internal circuit damage of switch	
Inding 50 CKD	4		

Cylinder switch

Troubleshooting

	(1) Replace the cylinder switch and set the correct rated voltage	1
L	 (2) Replace with a cylinder switch in correct rated voltage 	l
	(1) Replace the cylinder switch and select a cylinder switch with maximum rating matching the load	
	rating	
	(4) Connect connectly	1
	 (1) Connect correctly 	
	 (1) Replace the cylinder switch and connect correctly 	
	(1) Replace the cylinder switch and provide a sufficient bending radius (9 mm or over) for the lead	
	wire so that one location is not subject to excessive bending	
L.	 (2) Change the cylinder switch to T2 R type with elasticity specifications (T-switch only) 	I
	(1) Replace the cylinder switch, and take measures to prevent excessive tension from being applied	
		1
	 (1) Replace the cylinder switch and wire the protective circuit (Refer to Intro Pages 80 and 82) 	I.
	 (1) Replace the cylinder switch and wire the protective circuit (Refer to Intro Pages 80 and 82) 	J
_	(1) Add a noise filter or replace with a reed switch	
L.	 (2) Separate the power cable and signal cable 	
L,	 (3) Separate the power source 	l
	 (1) Adjust the position again 	1
	 (1) Tighten within the specified tightening torque range 	l
L	 (1) Mount in the correct direction 	
-		
'	 (1) Lower the ambient temperature to 60°C or less 	
L_1	 (2) Replace with a heat-resistant cylinder switch (Refer to the catalog for compatible models) 	I.
	(1) Change from standard cylinder switch to T YL of coolant proof specifications (T-switch only)	
L	(2) Replace the cylinder switch, and provide a partition so that water and oil do not make excessive contact	ے ا
	(1) Set a partition so water and oil do not come in contact with the relay box, or place the relay box in a waterproof box	Cylinder switch
		ir sv
		nde
	 (1) Change to a strong magnetic field proof switch. The cylinder body must also be changed to one for strong magnetic fields (2) Check that magnetic fields are not applied 	Cyli.
	a. Move the magnetic field generator away.	
	b. Set a magnetic material partition between the magnetic field origin and cylinder switch	
L_1	 (3) Provide magnetic shield 	
_	 (1) Replace with a stainless steel bolt 	
L	(2) Mount the cylinder switch on a surface distanced from the iron bolt	I
	(1) Separate the cylinder switch from the magnetic substance to the value recommended in the catalog	
-	 (1) Separate the cylinder switch non the magnetic substance to the value recommended in the catalog (2) Mount the cylinder switch on a surface distanced from the magnetic substance 	
L	(3) Change the magnetic substance's material to a nonmagnetic material such as stainless steel, aluminum, copper, etc.	I
	(1) Pomovo iron obino	
	 (1) Remove iron chips 	F H
	(1) Replace the cylinder switch and check that external force is not applied to the cylinder switch	Endi

Countermeasures

Troubleshooting [Cylinder switch] (4)

Trouble	Cause	Factor
The cylinder switch indicator lamp turns ON but the load does not operate	The relation of the cylinder switch voltage drop and load input specifications is: (power supply voltage - internal voltage drop) < min. working voltage	The load and cylinder switch do not match Internal voltage drop caused by serial connection (Refer to Intro Page 81)
	When using 3-wire, the programmable controller (PLC) input specifications (source input, sink input) do not match	The cylinder switch's signals are not received
	Cylinder switch output is set to the middle of the air cylinder stroke	The cylinder speed is fast and the load does not react

Troubleshooting

(1) Replace the cylinder switch with a model with small internal voltage drop	
\Box 2 type $\rightarrow \Box$ 0 type $\rightarrow \Box$ 3 type $\rightarrow \Box$ 5 type	
 (2) Replace the load with one with smaller min. working voltage 	

►	(1) Source input Select NPN output 3 type (NPN output is standard)		
	(2) Sink input Select PNP output 3P type (T, K, M or F-switch only)		
-	(3) Change the cylinder switch to 2-wire		

 (1) Change to T2J with OFF delay specifications (T-switch only)
(2) Connect several cylinder switches in parallel to increase the operating range.
(3) Connect a sensor controller, etc., between the cylinder switch and load, and change to a
signal time that matches load performance.
Example: OMRON S3D2
(4) Decrease cylinder speed

