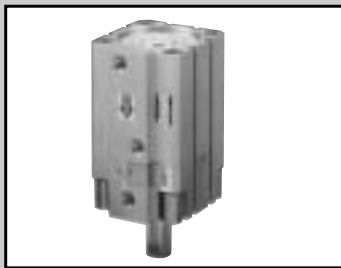


SCP\*2  
CMK2  
CMA2  
SCM  
SCG  
SCA2  
SCS  
CKV2  
CA/OV2  
SSD  
CAT  
MDC2  
MVC  
SMD2  
MSD\*  
FC\*  
STK  
ULK\*  
JSK/M2  
JSG  
JSC3  
USSD  
USC  
JSB3  
LMB  
STG  
STS/L  
LCS  
LCG  
LCM  
LCT  
LCY  
STR2  
UCA2  
HCM  
HCA  
SRL2  
SRG  
SRM  
SRT  
MRL2  
MRG2  
SM-25  
CAC3  
UCAC  
RCC2  
MFC  
SHC  
GLC  
Ending



Position locking compact cylinder

# USSD/USSD-K Series

● Bore size  $\phi$  20,  $\phi$  25,  $\phi$  32,  $\phi$  40,  $\phi$  50,  $\phi$  63,  $\phi$  80,  $\phi$  100

JIS symbol



## Common specifications

Descriptions		USSD/USSD-K							
Bore size	mm	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	φ 80	φ 100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	1.0							
Min. working pressure	MPa	0.25 (loadless) note							
Withstanding pressure	MPa	1.6							
Ambient temperature		-10 to 60 (no freezing)							
Port size		M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	USSD: <sup>+1.0</sup> <sub>0</sub>				USSD-K: <sup>+2.0</sup> <sub>0</sub>			
Working piston speed	mm/s	50 to 500					50 to 300		
Cushion		USSD: None				USSD-K: Rubber cushion			
Lubrication		Not available							
Lock force	N	150	235	386	603	943	1497	2464	3847
Option		Rod end male thread (N)							
Allowable energy	No cushion	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56
absorption J	Cushioned	0.157	0.157	0.402	0.628	0.98	1.56	2.51	7.92

Note: Piston rod may start to move from 0.05MPa depending on conditions that the product left. Check the residual pressure and back pressure.

## Individual specifications

Model no.	USSD (double acting single rod type)	USSD-K (double acting single rod high load type)
Stroke tolerance mm	+1.0 0	+2.0 0
Cushion	None	Rubber cushion

## Stroke length

Model	Bore size (mm)	Standard stroke length (mm) Note 4	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke length with switch (mm)
USSD	$\phi$ 20	5, 10, 15, 20, 25, 30	30	1 (Note 3)	5
	$\phi$ 25, $\phi$ 32, $\phi$ 40, $\phi$ 50	5, 10, 15, 20, 25, 30, 40, 50	50		
	$\phi$ 63, $\phi$ 80, $\phi$ 100	5, 10, 20, 30, 40, 50			
USSD-K	$\phi$ 20	5, 10, 15, 20, 25, 30, 40, 50	200 (Note 1)	1 (Note 3)	5
	$\phi$ 25, $\phi$ 32, $\phi$ 40, $\phi$ 50	10, 15, 20, 25, 30, 40, 50 60, 70, 80, 90, 100	300 (Note 1)		
	$\phi$ 63, $\phi$ 80, $\phi$ 100	10, 20, 30, 40, 50, 60, 70 80, 90, 100			

Note 1: Lengths exceeding the standard stroke are available in increments of 10 to the maximum stroke. (e.g.) USSD-K-20: 60, 70, 80, 90, 100 ...

Dimensions of custom stroke length (e.g. 64mm stroke) is the same as the following increment of stroke length (e.g. 70mm stroke).

Note 2: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Note 3: The minimum stroke is available from 1mm, but consideration must be made to the tolerable stroke difference.

Note 4: The 2 color indicator type, off delay type, strong magnetic field proof type, or 10mm or shorter type with T1\* or T8\* switch is not available.

### Switch specifications

● 1 color/2 color indicator

\*The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for working conditions.

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire						
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T3H/ T3V	T3PH/T3PV (Custom order)	T3YH/ T3YV	T0H/T0V		T5H/T5V		T8H/T8V		
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay		
Output method	-			NPN output	PNP output	NPN output	-						
Power voltage	-			10 to 28 VDC			-						
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μ A or less			0mA						

● With preventive maintenance output

Descriptions		Proximity 3 wire	Proximity 4 wire	Proximity 3 wire	Proximity 4 wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment section	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular Output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20mA	50mA or less	5 to 20mA	50mA or less
	Leakage current	1mA or less	10 μA or less	1.2mA or less	10 μA or less
Preventive maintenance Output	Load voltage	30 VDC or less			
	Load current	20mA or less	50mA or less	5 to 20mA or less	50mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.

Note 2: Max. load current above: 20mA at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25 °C.  
(5 to 10mA when 60°C)

SCP\*2  
CMK2  
CMA2  
SCM  
SCG  
SCA2  
SCS  
CKV2  
CA/OV2  
SSD  
CAT  
MDC2  
MVC  
SMD2  
MSD\*  
FC\*  
STK  
ULK\*  
JSK/M2  
JSG  
JSC3  
USSD  
USC  
JSB3  
LMB  
STG  
STS/L  
LCS  
LCG  
LCM  
LCT  
LCY  
STR2  
UCA2  
HCM  
HCA  
SRL2  
SRG  
SRM  
SRT  
MRL2  
MRG2  
SM-25  
CAC3  
UCAC  
RCC2  
MFC  
SHC  
GLC  
Ending

Position locking compact cylinder  
With brake

# USSD/USSD-K Series

## How to order

● Without switch

**USSD-K** - **20** - **5** - **F** - **N** - **LB**

● With switch

**USSD-KL** - **20** - **5** - **F** - **T0H** - **R** - **N** - **LB**

**A** Model no.

**B** Bore size (mm)

**C** Stroke length (mm)

**D** Lock direction

**E** Switch model no.

Note 3

**F** Switch quantity

**G** Option

**H** Mounting bracket  
Note 2

## Note on model no. selection

Note 1: Switches other than (E) switch model no. are available. (Custom order)

Note 2: The mounting bracket is shipped with the product.

Note 3: For bore size  $\phi$  20 to  $\phi$  32 of USSD-\*L, T8\* switch can not be installed.

<Example of model number>

**USSD-KL-20-5-F-T0H-R-N**

Model: Position locking compact cylinder

**A** Model no. : Double acting high load type with switch

**B** Bore size :  $\phi$  20mm

**C** Stroke length : 5mm

**D** Lock direction : Forward lock

**E** Switch model no. : Reed, axial lead wire 1m

**F** Switch quantity : One on rod end

**G** Option : Rod end male thread

Symbol	Descriptions
<b>A Model no.</b>	
<b>USSD</b>	Double acting
<b>USSD-L</b>	Double acting with switch
<b>USSD-K</b>	Double acting high load type
<b>USSD-KL</b>	Double acting high load type with switch

<b>B Bore size (mm)</b>	
<b>20</b>	$\phi$ 20
<b>25</b>	$\phi$ 25
<b>32</b>	$\phi$ 32
<b>40</b>	$\phi$ 40
<b>50</b>	$\phi$ 50
<b>63</b>	$\phi$ 63
<b>80</b>	$\phi$ 80
<b>100</b>	$\phi$ 100

<b>C Stroke length (mm)</b>	
Refer to the stroke length table on the following page.	

<b>D Lock direction</b>	
<b>F</b>	Forward locking
<b>B</b>	Backward locking

<b>E Switch model no.</b>				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>		1 color indicator type (custom order)	3-wire
<b>T3H*</b>	<b>T3V*</b>		2 color indicator type	2-wire
<b>T3PH*</b>	<b>T3PV*</b>		2 color indicator type (without indicator light for preventive maintenance output)	3-wire
<b>T2YH*</b>	<b>T2YV*</b>		2 color indicator type (w/ indicator light for preventive maintenance output (1 color))	3-wire
<b>T3YH*</b>	<b>T3YV*</b>		Off-delay type	2-wire
<b>T2YFH*</b>	<b>T2YFV*</b>			
<b>T3YFH*</b>	<b>T3YFV*</b>			
<b>T2YMH*</b>	<b>T2YMV*</b>			
<b>T3YMH*</b>	<b>T3YMV*</b>			
<b>T2JH*</b>	<b>T2JV*</b>			

<b>*Lead wire length (m)</b>	
<b>Blank</b>	1m (standard)
<b>3</b>	3m (option)
<b>5</b>	5m (option)

<b>F Switch quantity</b>	
<b>R</b>	One on rod end
<b>H</b>	One on head end
<b>D</b>	Two

<b>G Option</b>	
<b>Blank</b>	Rod end female thread
<b>N</b>	Rod end male thread

<b>H Mounting bracket</b>	
<b>LB</b>	Axial foot
<b>CB</b>	Clevis (pin and snap ring attached)

### © Stroke length

Series	Stroke length (mm)		Applicable bore size							
			φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
USSD	Standard stroke length	5	●	●	●	●	●	●	●	●
		10	●	●	●	●	●	●	●	●
		15	●	●	●	●	●	●	●	●
		20	●	●	●	●	●	●	●	●
		25	●	●	●	●	●	●	●	●
		30	●	●	●	●	●	●	●	●
		40	●	●	●	●	●	●	●	●
		50	●	●	●	●	●	●	●	●
	Min. stroke length	Note 1	1							
	Custom stroke length	Note 1, Note 2	1							
USSD-K	Standard stroke length	5	●	●	●	●	●	●	●	●
		10	●	●	●	●	●	●	●	●
		15	●	●	●	●	●	●	●	●
		20	●	●	●	●	●	●	●	●
		25	●	●	●	●	●	●	●	●
		30	●	●	●	●	●	●	●	●
		40	●	●	●	●	●	●	●	●
		50	●	●	●	●	●	●	●	●
		60	●	●	●	●	●	●	●	●
		70	●	●	●	●	●	●	●	●
		80	●	●	●	●	●	●	●	●
		90	●	●	●	●	●	●	●	●
		100	●	●	●	●	●	●	●	●
	Min. stroke length	Note 1	1							
	Custom stroke length	Note 1, Note 2	1							

Note 1: Total length is the same as the next longer standard stroke length.

(Less than 5 mm with switch is not available)

The 2 color indication type, off delay type, strong magnetic field proof type, or 10mm or shorter type with T1\* or T8\* switch is not available.

### How to order switch

**SW** - **T0H**

Switch model no.  
(Item (E) previous page)

### Mounting bracket model no. display dimension

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Mounting bracket								
Foot (LB)	USSD-LB-20	USSD-LB-25	USSD-LB-32	USSD-LB-40	USSD-LB-50	USSD-LB-63	USSD-LB-80	USSD-LB-100
Clevis (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100

Note 1: Foot type mounting bracket is a two-piece/set.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
<b>USSD</b>
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Position locking compact cylinder  
With brake