# Trimmer Auto Switch $C \in D-M9K/D-\square 7K/D-R\square K$

Direct mounting (Round groove)

Direct mounting (Square groove)

# Rail mounting

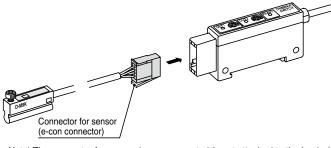
# **Specifications**

#### **Sensor Unit**

Auto switch model	D-M9K	D-Y7K	D-F7K										
Mounting	Direct mounting (Round groove)	Direct mounting (Square groove)	Rail mounting										
Applicable amplifier unit		D-RNK, D-RPK											
Indicator lamp	Red lights ON at sensitive	ed lights ON at sensitive position. Green lights ON at optimum detecting position.											
Electrical entry		Grommet											
Impact resistance		980 m/s²											
Insulation resistance	$50~\text{M}\Omega$ or more (500 VDC m	neasured via megohmmeter)	between lead wire and case										
Withstand voltage	1000 VAC for 1 m	inute (between lea	ad wire and case)										
Ambient temperature		–10 to 60°C											
Enclosure		IP67											
Weight (with connector)	55 g	55 g 58 g											
Standard		CE Marking											

#### **Oilproof Heavy-duty Cable**

Auto	switch model	D-M9K	D-M9K D-Y7K D-F7								
Sheath	Outside diameter [mm]	ø3.5									
Insulator	Number of cores	4 cores (E	rown/Blue/Bla	ack/White)							
ilisulator	Outside diameter [mm]	ø1.0									
Conductor	Effective area [mm²]	0.15 (AWG26)									
Conductor	Strand diameter [mm]	ø0.08									
Minimum bendin	g radius [mm] (Reference value)	21									



Note) The connector for sensor (e-con connector) is not attached to the lead wire. It will be supplied loose in the same shipment (1 pc.).

# Amplifier Unit (with Sensor Unit) PLC: Programmable Logic Controller

·	Model	D-RNK	D-RPK						
Applica	able sensor unit	D-M9K, D-	77K, D-F7K						
Appli	cation	For relay	and PLC						
Power	supply voltage	12 to 2	4 VDC						
Currer	t consumption	40 mA or less							
Outpu	t specification	NPN open collector 2 outputs	PNP open collector 2 outputs						
Load voltage		28 VDC or less	_						
Load	current	80 mA or le	ss/1 output						
Intern	al voltage drop	1.5 V d	or less						
Leaka	ige current	100 μA or le	ess/1 output						
Resp	onse time	1 ms or less							
Indica	ator lamp	READY: Red lights ON when the piston position detected (with sensor unit). OUT1: Green lights ON when turned ON. OUT2: Orange lights ON when turned ON.							
Electrical	Connection to sensor	e-con co	onnector						
entry	Power supply/output cable	Gron	nmet						
Impac	t resistance	98 r	n/s²						
Insula	tion resistance	$50~\text{M}\Omega$ or more (500 VDC measured via m	egohmmeter) between lead wire and case						
Withs	tand voltage	1000 VAC for 1 minute (be	tween lead wire and case)						
Ambie	nt temperature	−10 to 60°C							
Enclo	sure	IP40							
Weigh	nt	70 g							
Stand	lard	CE M	arking						

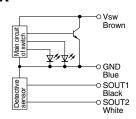
#### **Oilproof Heavy-duty Cable**

	, ,								
	Model	D-RNK	D-RPK						
Sheath	Outside diameter [mm]	ø3.5							
Inculator	Number of cores	4 cores (Brown/Blue/Black/White)							
Insulator	Outside diameter [mm]	ø1.0							
Conductor	Effective area [mm²]	0.15 (AWG26)							
Conductor	Strand diameter [mm]	ø0.08							
Minimum bendin	g radius [mm] (Reference value)	21							

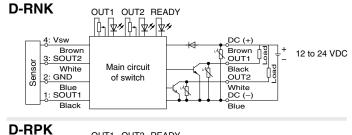
# **Internal Circuit**

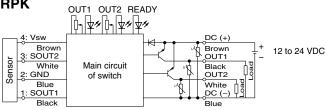
## **Sensor Unit**

#### D-M9K/D-□7K



## **Amplifier Unit**







# Series D-M9K/D- 7K/D-RK

# **Applicable Actuators and Operating Range (Angle)**

The operating ranges are provided as guidelines including the hysteresis and are not guaranteed value. Please consult with SMC for alternative actuators other than those shown below.

### Sensor Unit D-M9K

Air Grippers (The operating range for grippers is measured when both ends are open.)

(mm)

Description/Series		Bore size												
		10	16	20	25	32	40	50	63	80	100	125		
Parallel style	MHZ2	-	3.0	5.5	6.5	8.0	7.5	_	_	-	-	_		
Parallel style	MHZJ2	_	3.0	5.5	6.5	_					_	_		
Parallel style	MHS2 (2 fingers)	_	_	4.0	4.0		>	k		_	_	_		
Parallel style	MHS3 (3 fingers)	_	_	5.0	4.0	*								
Parallel style	MHS4 (4 fingers)	-	_	5.0	3.0		;	k		-	-	_		

Air Cylinders (mm)

Description/Corio	Description/Series		Bore size													
Description/Serie			16	20	25	32	40	50	63	80	100	125	140	160	180	200
Compact cylinder	CQ2-Z	3.5	4.5	4.5	5.0	5.5	5.0	5.0	6.0	6.0	6.0	7.5	7.5	8.0	7.0	7.0
Compact cylinder guide rod type	CQM	3.5	4.0	4.5	4.5	5.0	5.0	5.0	6.0	5.5	6.0	_	_	_	_	_
3 position cylinder	RZQ	_	_	_	_	5.0	5.0	5.0	5.5	_	_	_	_	_	_	_
Rotary clamp cylinder	MK-Z	3.0	3.5	3.5	4.0	4.5	4.0	4.5	4.5	_	_	_	_	_	_	_
Compact guide cylinder	MGP-Z	3.5	5.0	4.5	5.0	5.5	5.5	5.5	5.5	5.5	5.5	_	_	_	_	_

<sup>\*1</sup> When using the MHS series (bore size ø32 or more), use the D-Y7K.

### Sensor Unit D-Y7K

Air Grippers (The operating range for grippers is measured when both ends are open.)

(mm) or (°)

Descript	ion/Series						Bore size					
Descript	ion/Series	10	12	16	20	25	32	40	50	63	80	100
Parallel style	MHZ2	3.0	_	5.0	7.0	7.0	8.0	8.5	_	_	_	_
Parallel style	MHZL2	6.0	_	7.0	10.0	11.0	_	_	_	_	_	_
Wide type	MHL2	7.0	_	8.0	8.5	10.5	11.0	12.5	_	_	_	_
Parallel style	MHS2 (2 fingers)	_	_	_	_	_	6.5	7.0	7.5	8.5	_	_
Parallel style	MHS3 (3 fingers)/MHS(L)3	_	_	_	_	_	6.5	7.0	7.5	8.0	_	_
Parallel style	MHS4 (4 fingers)	_	_	_	_	_	6.5	7.0	7.5	8.5	_	_
Angular style	MHC2	30° to -10°	_	30° to -10°	30° to -10°	22.5° to -10°	_	_	_	_	_	_
180° Angular style	MHW2	_	_	_	88° to -5°	54° to -6°	58° to -5°	41° to –5°	30° to -4°	_	_	_

Air Cylinders

	\													
Description/Series		Bore size												
		10	12	16	20	25	32	40	50	63	80	100		
Compact guide cylinder Mo	IGP	_	3.5	5.0	4.5	4.5	5.5	5.5	5.5	5.5	5.5	6.0		
Non-rotating double power cylinder Mo	IGZ	_	_	_	_	_	_	5.5	6.5	6.5	_	_		
Air cylinder CA	A2	_	_	_	_	_	_	4.0	4.0	6.0	6.0	6.0		

### Sensor Unit D-F7K

Air Cylinders

(mm)

(mm)

Description/Series		Bore size													
		10	12	16	20	25	32	40	50	63	80	100	125	140	160
Air cylinder	CJ2	4.0	_	4.5	_	_	-	-	_	_	_	-	_	_	-
Air cylinder	CM2*2	_	_	_	3.5	3.5	3.5	3.5	_	_	_	_	_	_	_
Compact cylinder	CQ2*3	4.5	4.5	5.5	5.5	5.0	5.5	5.5	5.5	6.0	5.5	6.0	7.5	7.5	7.5
Plate cylinder	MU	_	_	_	_	5.5	6.5	6.5	6.5	6.5	_	-	_	_	_
Rotary clamp cylinder	MK/MK2	-	_	_	5.0	5.0	6.5	6.0	6.0	6.5	_	-	_	_	-

<sup>\*2</sup> Use the Made-to-Order product (-XC13: Auto switch rail mounting type) for the CM2 series.

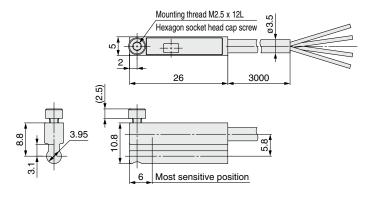


<sup>\*3</sup> Not applicable to the CQ2-Z series.

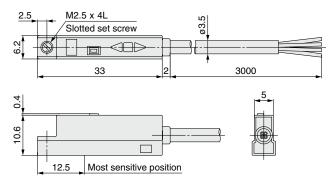
# Trimmer Auto Switch Series D-M9K/D-\[ 7K/D-R\[ K\]

## **Dimensions**

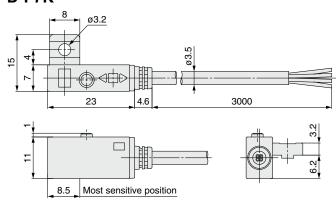
# Sensor Unit D-M9K



# D-Y7K



#### D-F7K



# Amplifier Unit D-R□K

