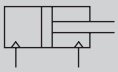


Lightweight clamp cylinder/double acting/single rod

CAC-N32/N40 Series

● Bore size: ø32, ø40

JIS symbol 

Specifications

Item		CAC-N32	CAC-N40
Bore size	mm	ø32	ø40
Actuation		Double acting	
Max. working pressure	MPa	1.0	0.7
Min. working pressure	MPa	0.15	
Proof pressure	MPa	1.6	1.05
Ambient temperature	°C	-10 to 60 (no freezing)	
Port size		Rc1/8	
Working piston speed	mm/s	50 to 500	50 to 400
Cushion		Rubber cushion	
Lubrication		Not required (use turbine oil ISO VS32 if necessary for lubrication)	
Mounting		Clevis bracket	
Allowable absorbed energy J	PUSH	0.424	
	PULL	0.424	0.639

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch (mm)
ø32	50, 75, 100, 125, 150	150	5	10
ø40				

Cylinder weight

(Unit: kg)

Bore size (mm)	Product weight per 0 mm stroke	Additional weight per 100 mm stroke	Weight per switch	Switch rail + band weight (per switch)	Weight of mounting bracket (tie rod mounting)	Weight of tie rod at 0 mm stroke	Additional weight of tie rod per S = 10 mm
ø32	0.45	0.15	Refer to the weight in the switch specifications on the next page.	0.009	0.021	0.019	0.003
ø40	0.53	0.17					

(Example) Product weight of CAC-N40-50-TOH-R

- Product weight at 0mm stroke 0.53kg
- Additional weight at 50mm stroke 0.17 x $\frac{50}{100}$ = 0.085kg
- Weight of TOH switch 0.018kg
- Weight of switch rail + 1 band 0.009kg
- Product weight 0.53+0.085+0.018+0.009=0.642kg

Switch specifications

● 1-color/2-color LED

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/ T2JV	T2YH/ T2YV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	TOH/TOV		T5H/T5V		T8H/T8V		
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay			For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		For programmable controller, relay		
Output method	-			NPN output	PNP output	NPN output	-						
Power supply 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 100 mA	5 to 20 mA (*3)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA						
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142		

*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.
*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
*3 : The 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)

● AC magnetic field

Item	Proximity 2-wire
	T2YD, T2YDT
Applications	Dedicated for programmable controller
Indicator	Red/green LED (Lit when ON)
Load voltage	24 VDC ±10%
Load current	5 to 20 mA
Internal voltage drop	6 V or less
Leakage current	1.0 mA or less
Output delay time (*1) (Delay ON, delay OFF)	30 to 60 mS
Lead wire (*2, 3)	Oil resistant vinyl cabtyre cable ø6, 0.5 mm^2 x 2-conductor (standard 1 m)
Insulation resistance	100 MΩ and over with 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s^2
Ambient temperature	-10 to +60°C
Degree of protection	JIS C0920 (water-tight), IEC Standard IP67, oil resistance
Weight g	1 m:61 3 m:166 5 m:272

*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 : Flame-resistant lead wires are available as options.
*4 : Switch for AC magnetic field cannot be used in DC magnetic field.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	$1.21x10^2$	$1.61x10^2$	$2.41x10^2$	$3.22x10^2$	$4.02x10^2$	$4.83x10^2$	$5.63x10^2$	$6.43x10^2$	$7.24x10^2$	$8.04x10^2$
	Pull	$1.04x10^2$	$1.38x10^2$	$2.07x10^2$	$2.76x10^2$	$3.46x10^2$	$4.15x10^2$	$4.84x10^2$	$5.53x10^2$	$6.22x10^2$	$6.91x10^2$
ø40	Push	$1.88x10^2$	$2.51x10^2$	$3.77x10^2$	$5.03x10^2$	$6.28x10^2$	$7.54x10^2$	$8.80x10^2$	-	-	-
	Pull	$1.65x10^2$	$2.21x10^2$	$3.31x10^2$	$4.41x10^2$	$5.51x10^2$	$6.62x10^2$	$7.72x10^2$	-	-	-

How to order

● Without switch (built-in magnet for switch)

CAC - N40 ○ - 50 ——— Y

● With switch (built-in magnet for switch)

CAC - N40 ○ - 50 - T0H - R ○ - Y

Ⓐ Bore size
Ⓑ Port thread
Ⓒ Stroke
Ⓓ Switch model No.
* indicates the lead wire length.
Ⓔ Switch quantity
Ⓕ Switch mounting position and mounting type
Ⓖ Accessory *1

Code	Description
Ⓐ Bore size (mm)	
N32	ø32
N40	ø40
Ⓑ Port thread	
Blank	Rc thread
N	NPT thread (made to order)
G	G thread (made-to-order product)
Ⓒ Stroke (mm)	
50, 75, 100, 125, 150	

Ⓓ Switch model No.

Straight lead wire	L-shaped lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	**T0V***	Reed	●	●	1-color LED	2-wire
T5H*	**T5V***	Reed	●	●	No indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color LED	2-wire
T1H*	**T1V***	Proximity	●		1-color LED	2-wire
T2H*	**T2V***	Proximity		●	1-color LED	2-wire
T3H*	**T3V***	Proximity		●	1-color LED	3-wire
T3PH*	**T3PV***	Proximity		●	1-color LED	3-wire
T2YH*	**T2YV***	Proximity		●	2-color LED	2-wire
T3YH*	**T3YV***	Proximity		●	2-color LED	3-wire
T2YD*	-	Proximity		●	2-color LED	2-wire
T2YDT*	-	Proximity		●	AC magnetic field	2-wire
T2JH*	**T2JV***	Proximity		●	1-color LED off-delay	2-wire

*** Lead wire length (m)**	
Blank	1 (standard)
3	3 (option)
5	5 (option)

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓕ Switch mounting position and mounting type		
A	Tie rod mounting *2	
C		
Blank	Band mounting *3	

Ⓖ Accessory	
Blank	Without accessory (rod eye)
Y	Rod clevis

Precautions for model No. selection

*1 : A pin, a split pin and a plain washer are attached with Y.
*2 : When the switch model No. is not specified, the mounting method will be tie rod only.
*3 : Tie rods cannot be retrofitted on cylinders with the switch mounting position and method left blank.

[Example of model No.]

CAC-N40-50-T0H-R-Y

Model: Lightweight clamp cylinder
Ⓐ Bore size : ø40 mm
Ⓑ Port thread : Rc thread
Ⓒ Stroke : 50 mm
Ⓓ Switch model No. : : Reed switch TOH, lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Switch mounting position and mounting type : Band mounting
Ⓖ Accessory : Rod clevis