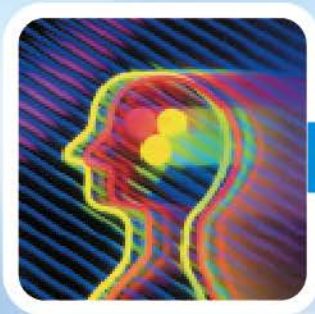




FOTEK

High compact

Magnetic Sensor

- High compact
- High Reliability
- High Noise Resistance
- Short circuit protection
- High protection class IP-67
- 堅固耐用
- 高穩定性
- 高抗干擾力
- DC type附短路保護
- 高防水等級IP-67

CE RoHS



Model guiding / 型號索引

Ex. **FC-20 R-H-2M**
1 2 3 4 5

1 Series(系列名稱)	「FC」: Magnetic sensor 「MS」: M8 Tubular type
2 Model(形式)	「20」: Plastic housing 「11」: Plastic housing 「05」: Plastic housing 「08」: M8
3 Output method (輸出方式)	「R」: Reed contact 「RE」: Output protection 「RN」: Reed contact NPN 「RP」: Reed contact PNP 「N」: NPN output 「P」: PNP output 「D」: Two wire solid state output
4 Sensitivity(感度) / Output status	「Non」: Standard sensitivity (<80 Gauss) 「H」: High sensitivity (<40 Gauss) 「L」: Low sensitivity (<120 Gauss) 「B」: NC type
5 Connection(出線方式)	「2M」: 2m cable/ 「1M」: 1m cable/ 「4M」: 4m cable/ 「PG」: M8 connector Lead wire/ 「PE」: Plastic connector Lead wire

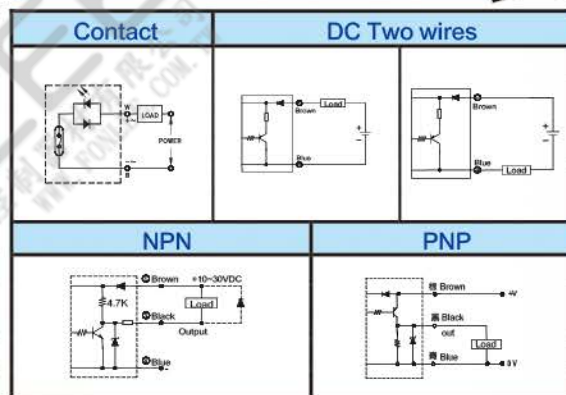
※ Notice for use / 選型使用注意事項 (*)

- 所有型號都有輸出短路及極性保護，除「FC-xxR」沒輸出短路保護。
- 請配合氣缸磁環選用適當感度的機型。「感度太高」動作點會提前或易受帶磁外物干擾，「感度太低」無動作或訊號漏失。
- 「2線式」最好不要超過2個以上串聯使用以免無法推動負載。(因沒每個都有輸出壓降約3.0V)
- 「FC-xxR」及「FC-xxRE」極性反接仍可感應輸出但指示燈不會亮，須更換極性即可正常動作，其他型極性接反則無動作。
- All model with Output short circuit & Polarity reversed protection, excepted 「FC-xxR」.
- Optimum sensitivity of sensor is required, if it is too high to be turned on too early or be interrupted, if it is too low to lose signal.
- It maybe cannot operate the load, if series connection over 2 pieces of 「2 wire type」 sensor.
- 「FC-xxR」 & 「FC-xxRE」 may turn on load but cannot turn on operating LED, other type don't work, if power polarity is reversed.

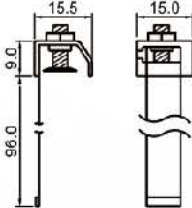
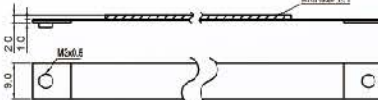
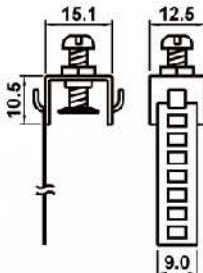
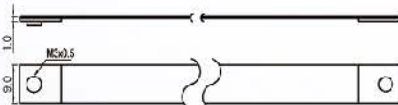
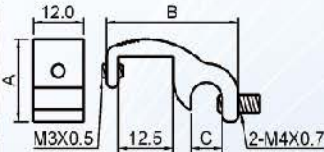
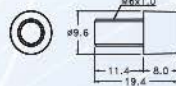
General data / 共同規格

Specification	規格	Data	
Sensor	感應器	Reed sensor	Hall sensor
Contact rated	接點功率	10W max.	---
Output current	輸出電流	50mA or 150mA or 500mA max.	50mA or 150mA max.
Current consumption	消耗電流	non	8mA max.
Output protection	輸出保護	*	Short circuit & Polarity reversed
Protection class	保護等級	IP-67 (IEC-60529)	
Vibration resistance	耐震動	300m/S ² / (55 ~ 2000 Hz) (IEC-60068-2-6)	
Shock resistance	耐衝擊	300m/S ² with 11ms (IEC-60068-2-27)	
EMC Interference	電磁相容	IEC 61000-6-4	
Dielectric strength	電介強度	2.5kv / 1 minute min.	
Insulation strength	絕緣強度	100 M Ω / 500vdc	
Operation circumstance	工作環境	-25°C ~ +85°C ; 100%RH max. (Condensation permitted)	

Connection diagram / 接線圖



Fixed parts / 固定帶

PNS/PNA (for FC-20)		BSS/BSA (for FC-48) / BES/BEA (for FC-04)		PH (for FC-20)																																																																									
Band PNS-16 Diameter of cylinder 10 : $\varnothing 10.0$ 20 : $\varnothing 20.0$ 150 : $\varnothing 150.0$ Material of cylinder S : Stainless steel A : Aluminum Alloy 		<table><thead><tr><th colspan="3">Alumina alloy cylinder</th><th colspan="3">Stainless steel cylinder</th></tr><tr><th>Model</th><th>Inner dia.</th><th>Outer dia.</th><th>Model</th><th>Inner dia.</th><th>Outer dia.</th></tr></thead><tbody><tr><td>BSA-20 / BEA-20</td><td>20Φ</td><td>25Φ</td><td>BSS-06 / BES-06</td><td>6Φ</td><td>8.5Φ</td></tr><tr><td>BSA-25 / BEA-25</td><td>25Φ</td><td>30Φ</td><td>BSS-08 / BES-08</td><td>8Φ</td><td>10Φ</td></tr><tr><td>BSA-30 / BEA-30</td><td>30Φ</td><td>35Φ</td><td>BSS-10 / BES-10</td><td>10Φ</td><td>11Φ</td></tr><tr><td>BSA-32 / BEA-32</td><td>32Φ</td><td>38Φ</td><td>BSS-12 / BES-12</td><td>12Φ</td><td>13.2Φ</td></tr><tr><td>BSA-40 / BEA-40</td><td>40Φ</td><td>45Φ</td><td>BSS-16 / BES-16</td><td>16Φ</td><td>17Φ</td></tr><tr><td>BSA-50 / BEA-50</td><td>50Φ</td><td>55Φ</td><td>BSS-20 / BES-20</td><td>20Φ</td><td>21.5Φ</td></tr><tr><td>BSA-63 / BEA-63</td><td>63Φ</td><td>70Φ</td><td>BSS-25 / BES-25</td><td>25Φ</td><td>26.5Φ</td></tr><tr><td>BSA-80 / BEA-80</td><td>80Φ</td><td>87.7Φ</td><td>BSS-32 / BES-32</td><td>32Φ</td><td>33.5Φ</td></tr><tr><td></td><td></td><td></td><td>BSS-40 / BES-40</td><td>40Φ</td><td>42Φ</td></tr></tbody></table> 		Alumina alloy cylinder			Stainless steel cylinder			Model	Inner dia.	Outer dia.	Model	Inner dia.	Outer dia.	BSA-20 / BEA-20	20 Φ	25 Φ	BSS-06 / BES-06	6 Φ	8.5 Φ	BSA-25 / BEA-25	25 Φ	30 Φ	BSS-08 / BES-08	8 Φ	10 Φ	BSA-30 / BEA-30	30 Φ	35 Φ	BSS-10 / BES-10	10 Φ	11 Φ	BSA-32 / BEA-32	32 Φ	38 Φ	BSS-12 / BES-12	12 Φ	13.2 Φ	BSA-40 / BEA-40	40 Φ	45 Φ	BSS-16 / BES-16	16 Φ	17 Φ	BSA-50 / BEA-50	50 Φ	55 Φ	BSS-20 / BES-20	20 Φ	21.5 Φ	BSA-63 / BEA-63	63 Φ	70 Φ	BSS-25 / BES-25	25 Φ	26.5 Φ	BSA-80 / BEA-80	80 Φ	87.7 Φ	BSS-32 / BES-32	32 Φ	33.5 Φ				BSS-40 / BES-40	40 Φ	42 Φ	 <table><thead><tr><th>Model</th><th>dia. of cylinder</th></tr></thead><tbody><tr><td>PH-63</td><td>6~63Φ</td></tr><tr><td>PH-125</td><td>6~125Φ</td></tr></tbody></table>		Model	dia. of cylinder	PH-63	6~63 Φ	PH-125	6~125 Φ
Alumina alloy cylinder			Stainless steel cylinder																																																																										
Model	Inner dia.	Outer dia.	Model	Inner dia.	Outer dia.																																																																								
BSA-20 / BEA-20	20 Φ	25 Φ	BSS-06 / BES-06	6 Φ	8.5 Φ																																																																								
BSA-25 / BEA-25	25 Φ	30 Φ	BSS-08 / BES-08	8 Φ	10 Φ																																																																								
BSA-30 / BEA-30	30 Φ	35 Φ	BSS-10 / BES-10	10 Φ	11 Φ																																																																								
BSA-32 / BEA-32	32 Φ	38 Φ	BSS-12 / BES-12	12 Φ	13.2 Φ																																																																								
BSA-40 / BEA-40	40 Φ	45 Φ	BSS-16 / BES-16	16 Φ	17 Φ																																																																								
BSA-50 / BEA-50	50 Φ	55 Φ	BSS-20 / BES-20	20 Φ	21.5 Φ																																																																								
BSA-63 / BEA-63	63 Φ	70 Φ	BSS-25 / BES-25	25 Φ	26.5 Φ																																																																								
BSA-80 / BEA-80	80 Φ	87.7 Φ	BSS-32 / BES-32	32 Φ	33.5 Φ																																																																								
			BSS-40 / BES-40	40 Φ	42 Φ																																																																								
Model	dia. of cylinder																																																																												
PH-63	6~63 Φ																																																																												
PH-125	6~125 Φ																																																																												
BES/BEA (for FC-04)		PI (for FC-20)		PM (for FC-20)																																																																									
		<table><thead><tr><th>Model</th><th>A</th><th>Inner dia. of cylinder</th></tr></thead><tbody><tr><td>PI-1</td><td>11.20</td><td>32~40Φ</td></tr><tr><td>PI-2</td><td>14.10</td><td>50~63Φ</td></tr><tr><td>PI-3</td><td>15.50</td><td>80Φ</td></tr><tr><td>PI-4</td><td>16.30</td><td>100Φ</td></tr><tr><td>PI-5</td><td>19.80</td><td>125Φ</td></tr><tr><td>PI-6</td><td>26.50</td><td>150Φ</td></tr></tbody></table> 		Model	A	Inner dia. of cylinder	PI-1	11.20	32~40 Φ	PI-2	14.10	50~63 Φ	PI-3	15.50	80 Φ	PI-4	16.30	100 Φ	PI-5	19.80	125 Φ	PI-6	26.50	150 Φ	<table><thead><tr><th>Model</th><th>A</th><th>B</th><th>C</th></tr></thead><tbody><tr><td>PM-5</td><td>19.1</td><td>31.3</td><td>7.3</td></tr><tr><td>PM-9</td><td>18.4</td><td>33.5</td><td>9.5</td></tr><tr><td>PM-10</td><td>16.7</td><td>35.7</td><td>11.2</td></tr><tr><td>PM-12</td><td>20.0</td><td>35.5</td><td>11.5</td></tr><tr><td>PM-14</td><td>24.0</td><td>38.0</td><td>13.5</td></tr><tr><td>PM-15</td><td>24.0</td><td>40.0</td><td>15.5</td></tr></tbody></table> 		Model	A	B	C	PM-5	19.1	31.3	7.3	PM-9	18.4	33.5	9.5	PM-10	16.7	35.7	11.2	PM-12	20.0	35.5	11.5	PM-14	24.0	38.0	13.5	PM-15	24.0	40.0	15.5																							
Model	A	Inner dia. of cylinder																																																																											
PI-1	11.20	32~40 Φ																																																																											
PI-2	14.10	50~63 Φ																																																																											
PI-3	15.50	80 Φ																																																																											
PI-4	16.30	100 Φ																																																																											
PI-5	19.80	125 Φ																																																																											
PI-6	26.50	150 Φ																																																																											
Model	A	B	C																																																																										
PM-5	19.1	31.3	7.3																																																																										
PM-9	18.4	33.5	9.5																																																																										
PM-10	16.7	35.7	11.2																																																																										
PM-12	20.0	35.5	11.5																																																																										
PM-14	24.0	38.0	13.5																																																																										
PM-15	24.0	40.0	15.5																																																																										
				磁鐵【MS-06】 																																																																									

Specification / 規格

Series	Model	Wires	Operating voltage	Output method	Voltage drop	Leakage current	Output current	Sensitivity (Gauss)	Response frequency	Sensor	Housing material	Outline
FC-20	FC-20R	2c/4φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed sensor	Intensive Nylon	
	FC-20RE	2c/4φ	5~60VDC	Contact	3.0V	non	150mA					
	FC-20RN	3c/4φ	5~30VDC	NPN	3.0V	non						
	FC-20RP	3c/4φ	5~30VDC	PNP	3.0V	non	150mA	<40	5K Hz	Hall sensor		
	FC-20D	2c/4φ	10~30VDC	T	3.5V	0.5mA						
	FC-20N	3c/4φ	5~30VDC	NPN	0.8V	0.1mA						
FC-20P	3c/4φ	5~30VDC	PNP	0.8V	0.1mA							
FC-04	FC-04R	2c/3φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed sensor	Intensive Nylon	
	FC-04RE	2c/3φ	5~60VDC	Contact	3.0V	non	50mA					
	FC-04D	2c/3φ	10~30VDC	T	3.5V	0.5mA	150 mA	<40	5K Hz	Hall sensor		
	FC-04N	3c/3φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-04P	3c/3φ	5~30VDC	PNP	0.8V	0.1mA						
FC-05	FC-05R	2c/3φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed sensor	Intensive Nylon	
	FC-05RE	2c/3φ	5~60VDC	Contact	3.0V	non	50mA					
	FC-05D	2c/3φ	10~30VDC	T	3.5V	0.5mA	150 mA	<40	5K Hz	Hall sensor		
	FC-05N	3c/3φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-05P	3c/3φ	5~30VDC	PNP	0.8V	0.1mA						
FC-11	FC-11R	2c/3φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed sensor	Intensive Nylon	
	FC-11RE	2c/3φ	5~60VDC	Contact	3.0V	non	50mA					
	FC-11D	2c/3φ	10~30VDC	T	3.5V	0.5mA	150 mA	<40	5K Hz	Hall sensor		
	FC-11N	3c/3φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-11P	3c/3φ	5~30VDC	PNP	0.8V	0.1mA						
FC-36	FC-36D	2c/2.5φ	10~30VDC	T	3.5V	0.5mA	50 mA	<40	5K Hz	Hall sensor	Intensive Nylon	
	FC-36N	3c/2.5φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-36P	3c/2.5φ	5~30VDC	PNP	0.8V	0.1mA						
FC-37	FC-37D	2c/2.5φ	10~30VDC	T	3.5V	0.5mA	50 mA	<40	5K Hz	Hall sensor	Intensive Nylon	
	FC-37N	3c/2.5φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-37P	3c/2.5φ	5~30VDC	PNP	0.8V	0.1mA						
FC-47	FC-47R	2c/3φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed sensor	Intensive Nylon	
	FC-47RE	2c/3φ	5~60VDC	Contact	3.0V	non	50mA					
	FC-47D	2c/3φ	10~30VDC	T	3.5V	0.5mA	150 mA	40 Gauss	5K Hz	Hall sensor		
	FC-47N	3c/3φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-47P	3c/3φ	5~30VDC	PNP	0.8V	0.1mA						
FC-48	FC-48R	2c/3φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed sensor	Intensive Nylon	
	FC-48RE	2c/3φ	5~60VDC	Contact	3.0V	non	50mA					
	FC-48D	2c/3φ	10~30VDC	T	3.5V	0.5mA	150mA	40 Gauss	5K Hz	Hall sensor		
	FC-48N	3c/3φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-48P	3c/3φ	5~30VDC	PNP	0.8V	0.1mA						
FC-50	FC-50R	2c/3φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed	Intensive Nylon	
	FC-50RE	2c/3φ	5~60VDC	Contact	3.0V	non	50 mA					
	FC-50D	2c/3φ	10~30VDC	T	3.5V	0.5mA	150mA	<40	5K Hz	Hall sensor		
	FC-50N	3c/3φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-50P	3c/3φ	5~30VDC	PNP	0.8V	0.1mA						
FC-06	FC-06R	2c/2.5φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed	Intensive Nylon	
	FC-06RE	2c/2.5φ	5~60VDC	Contact	3.0V	non	50 mA					
	FC-06D	2c/2.5φ	10~30VDC	T	3.5V	0.5mA	150mA	40 Gauss	5K Hz	Hall sensor		
	FC-06N	3c/2.5φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-06P	3c/2.5φ	5~30VDC	PNP	0.8V	0.1mA						
FC-07	FC-07R	2c/2.5φ	5~240VDC/AC	Contact	3.0V	non	500 mA	H<40 N<80 L<120	200Hz	Reed	Intensive Nylon	
	FC-07RE	2c/2.5φ	5~60VDC	Contact	3.0V	non	50 mA					
	FC-07D	2c/2.5φ	10~30VDC	T	3.5V	0.5mA	150mA	<40	5K Hz	Hall sensor		
	FC-07N	3c/2.5φ	5~30VDC	NPN	0.8V	0.1mA						
	FC-07P	3c/2.5φ	5~30VDC	PNP	0.8V	0.1mA						
FC-08	FC-08R	2c/4φ	5~240VDC/AC	Contact	3.0V	non	500 mA	<40	200Hz	Reed sensor	Cu	
FC-12	FC-12R	2c/4φ	5~240VDC/AC	Contact	3.0V	non	500 mA	<40	200Hz	Reed sensor	Cu	
FC-18	FC-18RE	2c/4φ	5~60VDC	Contact	3.0V	non	150 mA	<40	200Hz	Reed	PP	
	FC-18N	3c/4φ	5~30VDC	NPN	0.8V	0.01mA	150 mA	<40	5K Hz	Hall		
MS-08	MS08-10N	3c/4φ	5~30VDC	NPN	0.8V	0.01mA	150 mA	<40	5K Hz	Hall sensor	Cu	
	MS08-10P	3c/4φ	5~30VDC	PNP	0.8V	0.01mA	150 mA	<40				



- 以滿足客戶需求追求『企業永續經營』
- 以使用者角度設計『實用耐用的電控產品』
- 以量產標準化製造『世界標準的電控產品』
- By satisfying customer's requirements, To manage company forever.
- On user's position, To develop more『Performance & Reliable controls』
- By mass-quantity producing, To produce『World standard controls』

Magnetic ring / 磁環

RME series Rubber anisotropic magnetic ring

	Model	Dimension (mm)			Model	Dimension (mm)		
		A±0.3	B±0.2	C±0.1		A±0.3	B±0.2	C±0.1
	RME-164	15.5	8.3	4.0	RME-165	15.5	8.3	5.0
	RME-204	19.5	9.3	4.0	RME-205	19.5	9.3	5.0
	RME-254	24.5	13.3	4.0	RME-205L	19.5	12.3	5.0
	RME-254L	24.5	17.3	4.0	RME-255	24.5	13.3	5.0
	RME-304	29.5	21.3	4.0	RME-305	29.5	21.3	5.0
	RME-324	31.5	21.3	4.0	RME-325	31.5	21.3	5.0
	RME-404	39.5	22.3	4.0	RME-405	39.5	22.3	5.0
	RME-504	49.5	32.3	4.0	RME-505	49.5	32.3	5.0
	RME-634	62.5	42.3	4.0	RME-635	62.5	42.3	5.0
	RME-804	79.5	58.3	4.0	RME-805	79.5	58.3	5.0
使用環境溫度	-25°C ~ 80°C				RME-1004	99.5	78.3	5.0
磁通密度	2,500~2,600 GAUSS				RME-1005	99.5	78.3	5.0
保磁力 (iHC)	2,800~3,200 Oe							
保磁力 (bHC)	2,100~2,400 Oe							
最大磁積能	1.3 ~ 1.5 M Oe							
磁阻力	20~50kgf/cm ²							
延展性	10~20%							
硬度	30~50 HV							
材料密度	1.2~1.8 g/cm ³							

PME series Plastic anisotropic magnetic ring

	Model	Dimension (mm)			Model	Dimension (mm)		
		A±0.3	B±0.2	C±0.1		A±0.3	B±0.2	C±0.1
	PME-204	19.5	9.3	4.0	PME-125	11.5	6.3	5.0
	PME-254	24.5	13.3	4.0	PME-165	15.5	8.3	5.0
	PME-304	29.5	21.3	4.0	PME-205	19.5	9.3	5.0
	PME-324	31.5	21.3	4.0	PME-255	24.5	13.3	5.0
	PME-404	39.5	22.3	4.0	PME-305	29.5	21.3	5.0
	PME-504	49.5	32.3	4.0	PME-325	31.5	21.3	5.0
	PME-634	62.5	42.3	4.0	PME-405	39.5	22.3	5.0
	PME-804	79.5	58.3	4.0	PME-505	49.5	32.3	5.0
	PME-1004	99.5	78.3	4.0	PME-635	62.5	42.3	5.0
					PME-805	79.5	59.3	5.0
使用環境溫度	-40°C ~ 120°C				PME-1005	99.5	78.3	5.0
磁通密度	2,800~3,000 GAUSS							
保磁力 (iHC)	3,000~3,600 Oe							
保磁力 (bHC)	2,400~2,600 Oe							
最大磁積能	1.8 ~ 2.0 M Oe							
磁阻力	70~80kgf/cm ²							
延展性	5~7 %							
硬度	110~120 HV							
材料密度	3.8~4.0 g/cm ³							