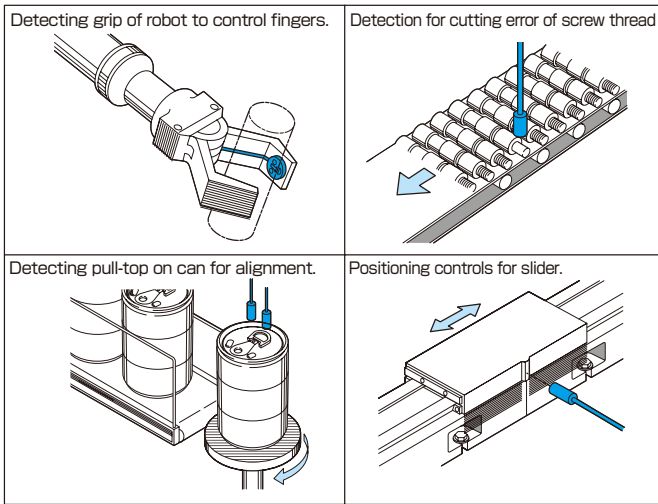


## Mini power relay type

- Disconnection detection featured  
Many outputs featured.
- Extremely small size  
(H-20) 10 other models sensor head can be used embedded in the metal minimum  $\phi 2.8$ . (Shield type)
- High precision  
high accuracy  $2\mu\text{m}$  (H-30) Low temperature drift.



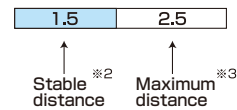
## CONTROLLER SPECIFICATIONS

SPEC	SENSOR	MS-110B
FUNCTION	Sensor head with disconnection alarm	
POWER SUPPLY	DC12-24V ripple 10% or less	
CURRENT CONSUMPTION	20mA or less	
PROTECTIONS	Power protection & Surge killer	
OUTPUT	CIRCUIT	NPN open-collector×3
	ACTION	Detection output: NC,NO Sensor head with disconnection function:NO
	CAPACITY	40VDC 100mA, Max.
RESPONSE	1 ms or less	
SENSITIVITY ADJ.	15 turn pot.	
TARGET	Ferrous materials : Fe, Al, Stainless steel, Cu etc.	
MATERIALS	Cover : ABS resin Terminal : Phenol resin	
DETECTION	LED(red) turns on	
OPERATING TEMPERATURE	-10~60°C	
OPERATING HUMIDITY	85%RH or less, non-condensing	
SOCKET	Socket (PYF08A, HJ2-SFD, SM2S-05B, or equivalent) shall be purchased separately.	

## SENSOR HEAD SPECIFICATIONS

ITEM MODEL	TYPE	OUTSIDE DIAMETER OF FACE (MM)	DISTANCE (MM) ※1	Hysteresis DISTANCE ( $\mu\text{M}$ )※4	REPEATABILITY ( $\mu\text{M}$ )※5	AVAILABILITY OF EMBEDDING	WORKING TEMPERATURE (°C)
CYLINDRICAL TYPE	H-20	$\phi 2.8$	0.6 1.8	20	3	○	-10 ~60
	H-30	$\phi 3.6$	1.2 2.2	50	2	○	
	H-50	$\phi 5.4$	1.5 2.5	50	2	○	
	H-80	$\phi 8.0$	2.5 5	40	5	○	
SCREW TYPE	H-101	M10	2.5 5	40	5	○	
	H-141	M14	5 8	50	5	○	
	H-162	M16	6 10	50	6	×	
	H-182	M18	7 16	80	10	×	
	H-222	$\phi 22$	8 18	100	10	×	
	H-302	$\phi 30$	12 25	120	10	×	
THIN TYPE	H-225	4.5t	5 8	50	5	○	

※1 How to read "DISTANCE"  
Example : In case of H-50



Distance coefficient

SS400	1.0
SUS430	approx. 0.9
SUS304	approx. 0.8
Brass	approx. 0.6
Aluminium	approx. 0.4
Copper	approx. 0.4

※2 Stable distance: satisfying accurate detection range

※3 Maximum distance : longest range that sensor can detect for the ideal target(SS400,  $\phi 90, t=5$ ) without accuracy assurance.

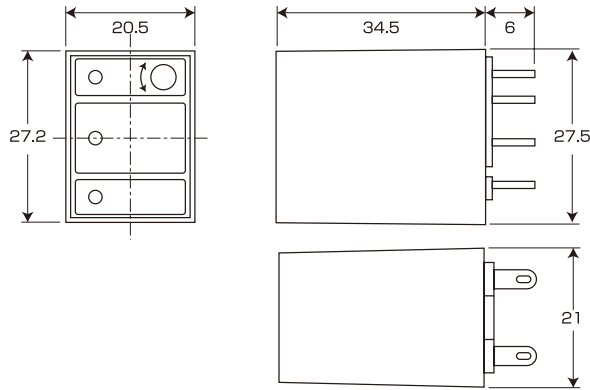
※4 Hysteresis distance : the difference distance between the return operation and detection operation.

※5 Repeatability is the range of actual positions the sensor takes while being repeatedly commanded to the same location under identical conditions.

※Specification applies to using the standard cable (3m). Extension cable make the distance shorter.

**CONTROLLER DIMENSIONS**

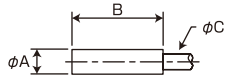
● Controller



**SENSOR-HEAD DIMENSIONS**

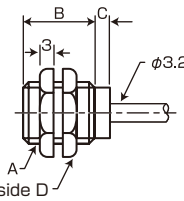
● Sensor Head

H-20~80



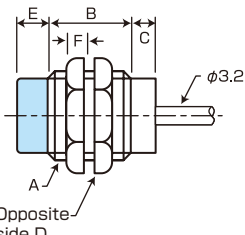
MARK	A	B	C
H-20	2.8	15	1.9
H-30	3.6	15	2.6
H-50	5.4	15	3.2
H-80	8	15	3.2

H-101,141



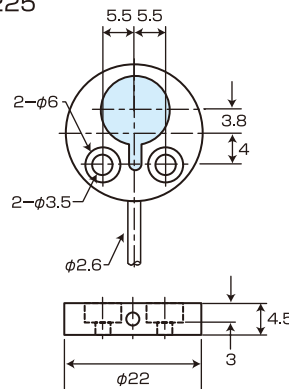
MARK	A	B	C	D
H-101	M10,P=1.0	12	3	14
H-141	M14,P=1.0	15	5	19

H-162,182

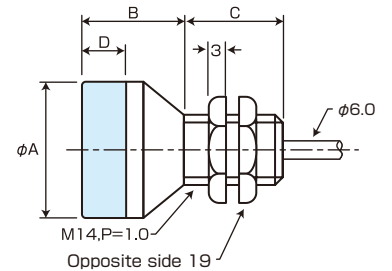


MARK	A	B	C	D	E	F
H-162	M16,P=1.0	14	5	21	6	3
H-182	M18,P=1.0	17	5	24	8	4

H-225



H-222,302

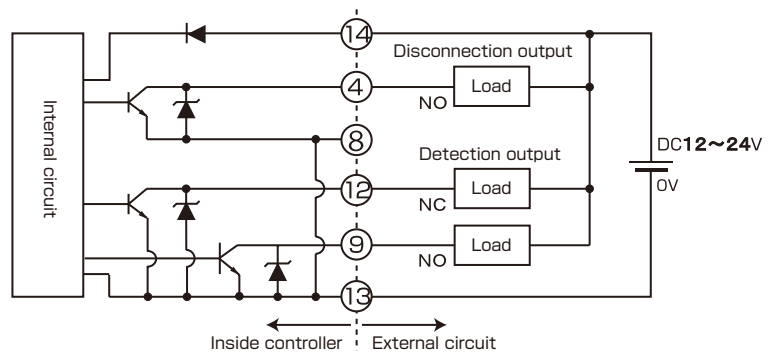
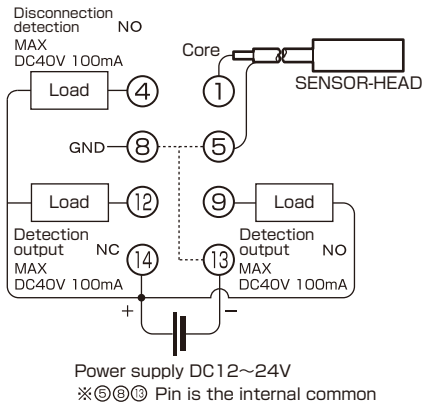


MARK	A	B	C	D
H-222	22	18	14	8
H-302	30	24	14	10

3m coaxial cable (standard cable)

**WIRING CONNECTIONS OUTPUT**

MS-110B



The meaning of (A), (B) are channel (a) and channel (B).

(BOTTOM VIEW)

