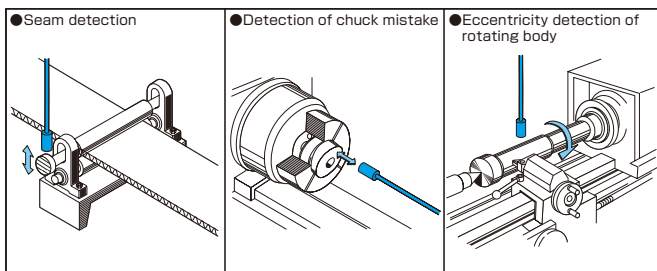




The detection moment a small eccentricity

- Proper detection distance display function**
 The proper distance between an object and a sensor head can be set easily while confirming the change of color from green to orange.
- Disconnection display function**
 The detection indicator turns red and the control output works at the same time when a sensor head is disconnected. Inferior goods cannot be mixed into goods.
- Synchronous display function**
 Measuring in progress can be confirmed with the detection indicator turning green during measurement time (synchronization terminal short circuit).
- Adoption of a one-chip microcomputer**
 High function and environmental resistance is improved with the adoption of a one-chip microcomputer.

APPLICATIONS



MAIN FUNCTION

- POWER INDICATOR LAMP**
 Green Light : when the power turns on.
 Orange Light : when the sensor head is in the proper position.
- PROPER MEASUREMENT RANGE INDICATOR LAMP**
 Green Light : when the synchronization signal is input.
 Orange Light : when the control output works.
 Red Light : when the sensor head is disconnected.
 Control output : when the amplitude of the object exceeds the set value or the sensor head is disconnected.

CONTROLLER SPECIFICATIONS

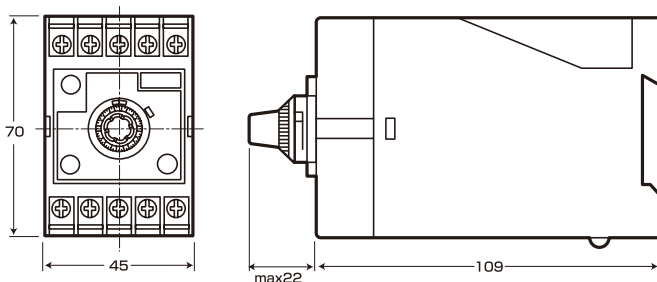
CONTROLLER		FS-500-1A	FS-500-2A	FS-500-3A	FS-500-4A
SENSOR		HA-30S	HA-50S	HA-80S	HA-141S
ITEM				HA-101S	HA-225S
LINEARITY RANGE*1		0~0.4mm	0~0.6mm	0~1.4mm	0.5~2mm
MEASUREMENT RANGE*2		0~0.8mm	0~1.0mm	0~2.0mm	0~3.5mm
RESOLUTION		1μm			
RESPONSE		20~15,000rpm			
LIMIT ALARM OUTPUT	RELAY OUTPUT	1a,2A/250VAC max.			
	TRANSISTOR OUTPUT	Open-collector,40VDC 100mA max.			
MONITOR OUTPUT	AMPLITUDE	Analog output:1mV/μm,output impedance:51Ω			
	DISPLACEMENT				
SETTING DIAL	DIAL	10-truns pot.			
	SETTING RANGE	10~1,000mV 2mV/graduation			
	応差	5mV			
SYNCHRONOUS SIGNAL		Measurement allowed when SYNC. sw is ON			
AMBIENT TEMP.		-10~60°C			
AMBIENT HUMIDITY		85%RH or less,non-condensing			
POWER SUPPLY		AC100/200V ±15%50/60Hz			

*1 In which amplitude is proportional to dial reading.
 *2 In which amplitude may not be proportional to dial reading, but FS-500A is usable by dial calibration.

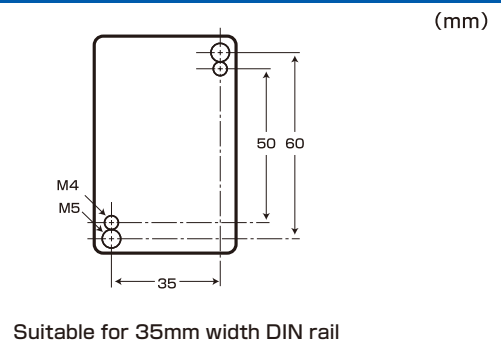
LED EXPLANATION

- POWER INDICATOR LAMP**
 Green led lights when the power is on. ...LED ①
- PROPER MEASUREMENT RANGE INDICATOR LAMP**
 Orange led lights when sensor head is in proper measurement...LED ①
- SYNCHRO-SWITCH CLOSED INDICATOR LAMP**
 Green led lights while Synchro-switch closed...LED ②
- DETECTOR INDICATOR LAMP**
 Orange led lights and limit alarm output turns on when hold voltage is over the comparison voltage...LED ②
- DISCONNECTION LAMP**
 Red led lights and limit alarm outputs when sensor cable was broken or cable connection is incomplete. ...LED ②

CONTROLLER DIMENSIONS



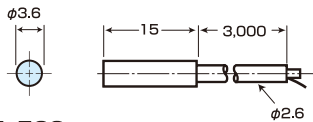
MOUNTING CUTOUT



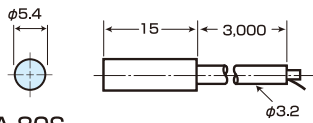
SENSOR-HEAD DIMENSIONS

● Sensor head

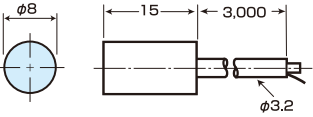
HA-30S



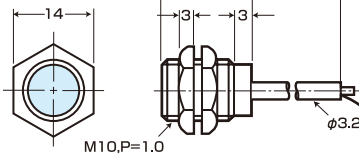
HA-50S



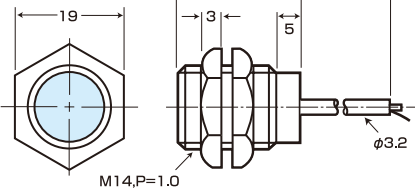
HA-80S



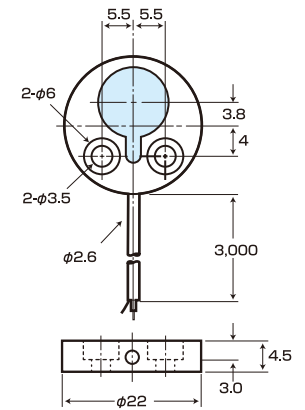
HA-101S



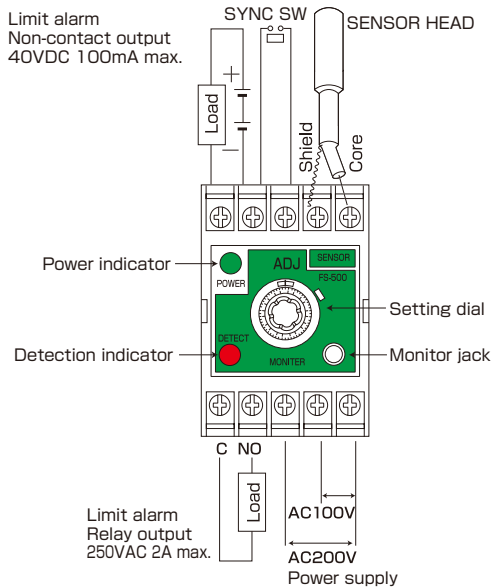
HA-141S



HA-225S



WIRING CONNECTIONS

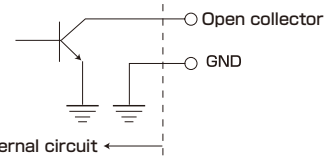


OUTPUT

■ Control output

The output works when the amplitude exceeds the setting level.

- Relay output NO contact, max. AC250V 2A (Resistance load)
- Non-contact output Open collector max. DC40V 100mA (Resistance load)



■ Monitor output

● Amplitude output

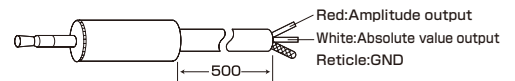
The amplitude is output as voltage. It can be observed and recorded using oscilloscope, pen recorder and so on.

● Absolute value output

The distance is output as voltage. It is useful to mount the sensor head with a voltmeter.

※ Absolute value always outputs. Amplitude outputs when simultaneous terminal is closed.

Please insert a accessory plug into the jack of the controller.

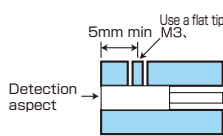


CAUTIONS ON USE

● SENSOR HEAD MOUNTING

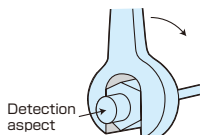
Please fix at the torque shown below.

※ Please use a M3 set screw whose top is flat.



TYPE	MAX. TORQUE
HA-30S	0.2Nm or less
HA-50S	0.5Nm or less
HA-80S	0.8Nm or less
HA-225S	1Nm or less

※ Readjustment is needed in case the sensor head is used buried in metal. For more information, Please contact our sales department.



TYPE	MAX. TORQUE
HA-101S	4Nm or less
HA-141S	15Nm or less

● VHF COAXIAL CABLE & CONNECTORS MATERIALS

Please wire the cable separately from power lines.

If extending the length of the sensor cable, please always use the high frequency coaxial cable (characteristic impedance 50 ohm) and coaxial connector within 10 meter at most.

TYPE	COAXIAL CABLE	COAXIA CONNECTOR
HA-30S HA-225S	RG-174U or equiv.	BNC-P-1.5,J-1.5 or equiv.
HA-50S HA-141S	1.5D-QEV or equiv.	

※ Please readjust the setting dial if having replaced the sensor head.

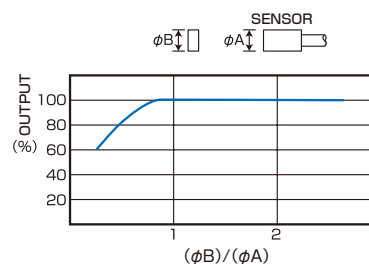
※ Values might be different from the catalogue data depending on the conditions where this product is used.

DATE

(1) For the area of subject

The specification value is satisfied if the diameter of a object is larger than that of the sensor head.

※ The object of the example below is a circular plate .



(2) In case a subject is a pillar

The specification value is satisfied if the diameter of the pillar is fivefold or more larger than that of the sensor head.

