

TYPE DAS-D
ELECTRIC ANGLE TRANSMITTER
INSTRUCTION MANUAL

MEIYO ELECTRIC CO., LTD.

※ Safety Precautions

Be sure to follow the precautions given below before starting inspection or servicing. Otherwise an accident may result due to electric shortcircuit:

- (1) Be sure to turn off the power.
- (2) Using tester, make sure no voltage is applied before starting the work.
- (3) Do not perform live-line work, except as required in emergency. Especially, pay special attention to high-temperature systems, for example, those involving exhaust gas.

General Information on Electric Shock

There are the following three cases where people suffer from electric shock:

- (1) Brought into contact with something electrically hot, his/her body makes a path of a ground fault current.
- (2) Brought into contact with two lines under voltage, his/her body causes short-circuit of lines.
- (3) Brought into a path of electricity, such as an electric wire and a switch, his/her body is inserted into the path of load current.

Electric Shock Preventive Measures

- (1) Eliminate insufficient insulation in wiring and electrical machinery and apparatus.
- (2) Completely execute grounding work for electrical machinery and apparatus.
- (3) Provide electric leak preventive measures for cables to electrical machinery and apparatus operated in wet places.
- (4) Be sure to turn off the power before starting inspection or repair work.



CAUTION

※ Installing Angle Transmitter, mistaken the direction fo rotating axis and transmitter (relation of output signal and rotating axis) can cause uncorrect output.

※ Adding exceeded rotating torque (over the range) can be caused damage.

1. Outline

This angle transmitter includes electric displacement transducer which converts the displacement of mechanical rotating angle position to DC 4- 20 mA output certainly and electric circuit.

Using the system without a mechanical contact, it's durable and strong against vibration as a measuring instrument. And also using two-wire system for the output signal, it's easy to connecting without receiving any affect of line resistance and having the advantage of being high noise-proof.

2. Specification

(1) Type	: DAS-D (DAS-Dxx , DAS-DxxR)	Note1
(2) Source	: DC 24 V (+30% ~ -25%)	
(3) Power Consumption	: 0.48 VA	
(4) Output Signal	: DC 4 -20 mA	
(5) Accuracy	: 1.0% F. S.	
(6) Measuring Angle	: 0 - 20° / 0 - 30° / 0 - 40° / 0 - 60° / 0-120°	
(7) Adjustment	: ±20% at F. S.	
(8) Movable Angle	: Scale range about+40°	
(9) Load Impedance	: $\frac{\text{Source (V)} - 13.5 \text{ (V)}}{0.02 \text{ (A)}}$ (Ω)	
(10) Allowable Temp.	: 0 ~ 60°C	
(11) Shaft Approval Load	: Radial direction 8 kgf : Thrust direction 5 kgf	
(12) Shaft Friction Torque	: Under 20 gfcm	
(13) Vibration	: Sensor part 20G Under 500Hz ; Amp part 4G Under 100Hz	
(14) Connection	: 2 wires system	
(15) Weight	: Sensor part 0.48Kg ; Amp part 0.5Kg	

Note1

About type

XX indicates the measuring angle.

End of type .. no mark : Output increase by turning right from view of rotation shaft.

End of type .. R : Output increase by turning left from view of rotation shaft.

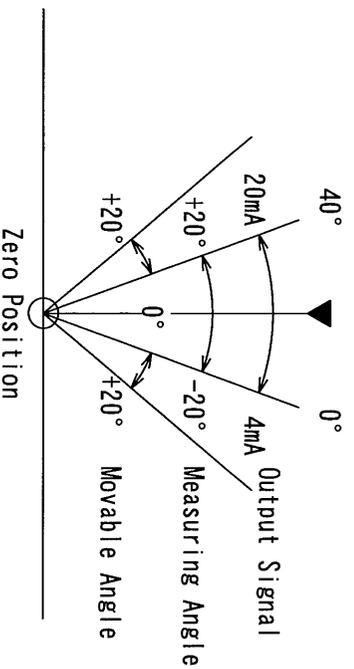
3. Installation (e.g. : DAS-D40R : the range of Measuring : 40-0°)

(1) The gaps of thrust direction and radial direction of shaft of this transmitter is zero. therefore, in this case, it is necessary not to be moved to thrust direction and radial direction or using machine guide's driving shaft.

(2) The rotating angle is going to stop at ± 40 degrees from the zero position of the shaft (groove from vertical direction).

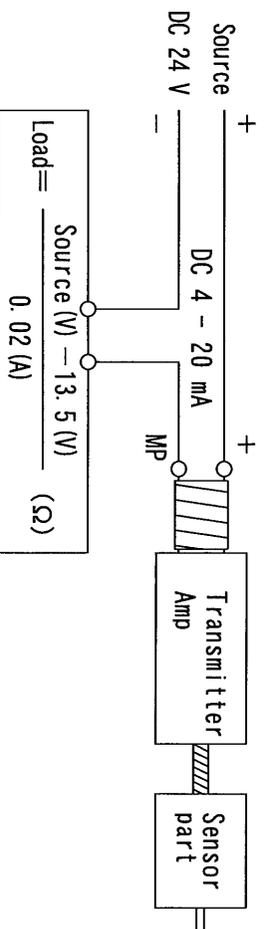
When it is need to hold the shaft of this transmitter to the machine side shaft, please set measuring point ± 20 degrees from the center position.

This transmitter will be damaged by adding over range rotating torque.



4. Connection

Please refer to blow Drawing without fail.



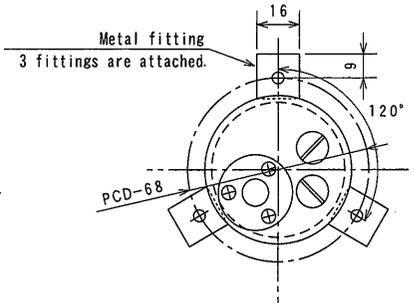
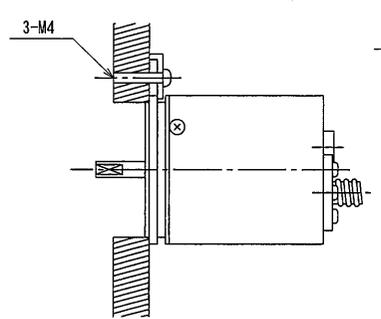
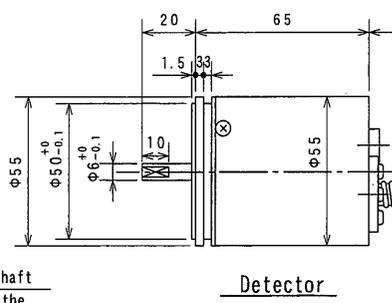
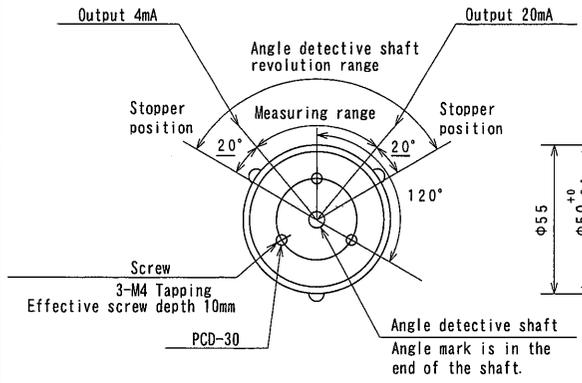
5. Adjustment

The equipment, at the delivery, has been adjustment to deliver the signal 4mA for position of minimum degrees. 20mA for position of maximum degrees from zero point of transmitter.

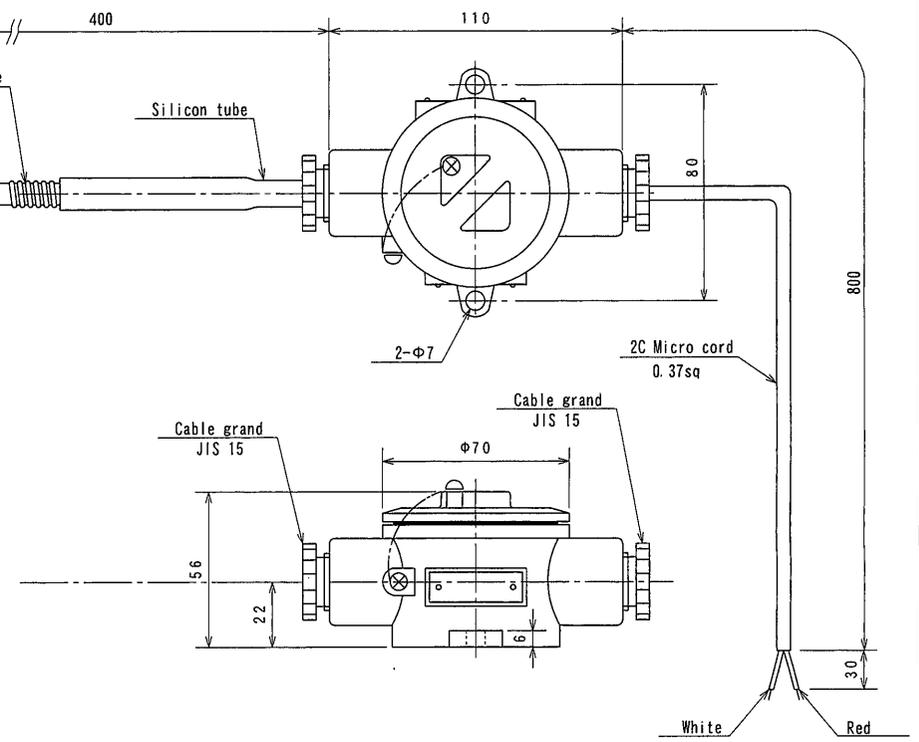
To adjust this output at the shaft coupling work of machinery, fit the shaft of the transmitter to machinery and turn it until its output being 4mA.

The fine adjustment can be made by zero adjust resistor in the trasmitter cover. After that turn the shaft of machinery to position of minimum degrees and adjust the output 20mA by span adjust resistor.

Make this adjustment two or three times and it is recommended toadjust the span surely.



Fixing method (using metal fitting)

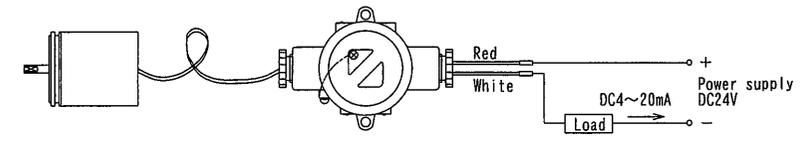


Specification

Electrical specification	
Supply voltage	DC24V within -25~+30%
Output signal	DC4~20mA
Load resistance	Supply voltage-13.5 (Ω) 0.02
Accuracy	Within ±1.0%F.S.
Reproducibility	Within ±0.3%F.S.
Sensitivity	Within 0.03%F.S.

Mechanical specification	
Sheath structure	Splash-proof structure
Shaft approval load	Radial direction: 8kgf Max. Thrust direction: 5kgf Max.
Shaft material	Stainless steel
Measuring	Division
Angle range	angle
Shaft movable angle range	Measuring angle range + about 40
Shaft friction torque	Less than 20gf·cm
Weight	Detector: 0.48kg Amplifier case: 0.50kg

Environmental condition	
Operating temperature	0~60°C
Storage temperature	-20~+70°C
Humidity	Under 95%RH
Vibration resistance	Detector: less than 20G 500Hz Amplifier case: less than 10G 100Hz
Shock resistance	Less than 50G



Connection diagram

DATE	'08.05.13	SCALE	N/S	3rd ANGLE PROJECTION	TITLE TYPE: DAS-D
APPROVED	<i>[Signature]</i>	CHECKED		DRAWN	ANGLE TRANSMITTER
REVISION		BY		WANG	DWG NO.
				明陽電機株式会社 MEIYO ELECTRIC CO., LTD	MTO-70011-03

FILE