FKP SERIES
TRANSDUCER
SPECIFICATIONS

FKP-452F TRANSDUCER
(Positive 24 volt type)

CE

Model Code / Additional Spec. Code (No entry if additional spec. code is not specified.)

FKP-452F □ - □ / SYS

System cable length		Mounting plate		Additional specification code	
1	5 m	1	DIN rail (35 mm) mount	/SYS	System calibration
2	9 m	2	Screw mount (50.8×50.8 mm)		
		3	Screw mount (92×31 mm : for VK replacement)		
		4	Screw mount Multi-pitch (50.8×50.8 mm and 92×31 mm)		

*1 Above code shows model number of driver only. Refer to outline drawings for model number of sensor and extension cable.

SPECIFICATIONS

CALIBRATION MATERIAL	JIS SCM440 flat surface
MEASURING RANGE	0.5 mm to 5.0 mm from sensor tip
SCALE FACTOR	3.94 V/mm
SCALE FACTOR ERROR*2	Within ±6 % of 3.94 V/mm (if calibrated as a system) Within ±10 % of 3.94 V/mm (including interchangeability errors) Step : 0.5 mm, Linear range : 4 mm
LINEARITY*2	Within ±50 μm of 3.94 V/mm straight line (if calibrated as a system) Within ±100 μm of 3.94 V/mm straight line (including interchangeability errors) Linear range : 4.5 mm
FREQUENCY RESPONCE*2	DC to 10 kHz or more (-3 dB)
MAX. OUTPUT VOLTAGE*2	Approx. +23 VDC
SENSOR ABNORMAL OUTPUT VOLTAGE*2	Approx. +0.6 VDC (Sensor OPEN/Sensor SHORT)
OUTPUT IMPEDANCE*2	50 Ω Current 5 mA(max.)
CURRENT CONSUMPTION (10 kΩ load)	Max. 15 mA
OUTPUT NOISE*2	Approx. 20 mVpk-pk + power supply noise
SENSOR TIP DIAMETER	Approx. 11 mm dia.
CABLE DIAMETER	Approx. 3.6 mm dia.
CONNECTOR DIAMETER	Approx. 7.1 mm dia.
SYSTEM CABLE LENGTH	5 m or 9 m
OPERATING TEMPERATURE RANGE	Sensor : -40 to +177 °C Extension Cable : -40 to +177 °C Driver : -40 to +80 °C
RANGE OF TEMPERATURE FOR MARINE APPLICATIONS	-25 to +70°C(Sensor, Extension Cable & Driver)
TEMPERATURE CHARACTERISTIC (TEMPERATURE DRIFT)	Sensor : Less than ±3 % of F.S. Extension Cable : Less than ±3 % of F.S. Condition : Gap=4 mm, Target : JIS SCM440 0 to 80 °C (at 20 °C standard) Driver : Less than ±3 % of F.S. Loop : Less than ±4 % of F.S. Condition : Gap=4 mm, Target : JIS SCM440 0 to 60 °C (at 20 °C standard)
OPERATING HUMIDITY RANGE	30 to 95 %RH (non-condensing, non-submerged) (Sensor body : 100 %RH)
POWER SUPPLY	+24 VDC ± 10 %
DIELECTRIC STRENGTH OF DRIVER	Between each terminals and mounting plate : 1 mA or less at 500 VAC for one minute
INSULATION RESISTANCE OF DRIVER	Between each terminals and mounting plate : 100 MΩ or more at 500 VDC
TERMINAL BLOCK	Spring lock terminal
APPLICABLE WIRE GAUGE	0.2 to 1.5 mm^2
DRIVER MASS	Approx. 200 g
*2 The above specification apply at 25 °C with 24 VDC power supply and load resistance 10 kΩ and JIS SCM440 target.	

1. CALIBRATION MATERIAL
   MODEL FKP-452F Transducers are calibrated for JIS SCM440 flat surface (more than 33 mm dia.).
   If the measured target is other than JIS SCM440 flat surface, it will present a different characteristics. In such a case, calibration by the connected equipment (e.g. receiver) side should be requred for system operation.
2. SHIELD WIRE CONNECTION
   Connect shield wire of signal cable (3-wire shielded cable between driver and receiver) to driver's "Shield" terminal and receiver's "COM" terminal.
   If this is not adhered to, noise may be caused.
3. CONNECTOR ISOLATION, etc.
   The connector connecting the sensor cable and the extension cable shall be insulated with the attached insulation sleeve (transparent shrink tube) or fluoro resin insulation tape.
   The vinyl-insulating tape shall not be used, which may cause the wiring trouble in the case of temperature more than 80 °C.
   The connector shall not be located in the oil environment.
   The oil penetration to cable through the connector may cause the sensitivity change, due to the change of the cable capacitance.
4. MEGGER TEST OF SIGNAL CABLE
   If megger test is made on the signal cable (3-wire shielded cable), be sure to discharge the charged electric load before connecting the cable to driver.
   If this caution is not adhered the driver could be damaged.
5. SENSOR INSTALLATION
   Not available for rain water at out door use.
   It may cause the sensitiviy change and insulation down.
6. CALIBRATED AS A SYSTEM
   The sensor, extension cable and driver, which are calibrated as a system, shall be connected with each serial No. as specified in the inspection test report. If this is not adheared the output characteristics may be out of specification.
7. SCALE FACTOR ERROR and LINEARITY
   The scale factor error margin and linearity margin provides for examination result in our factory.
   This regulated value is not applied to the examination result in the site.

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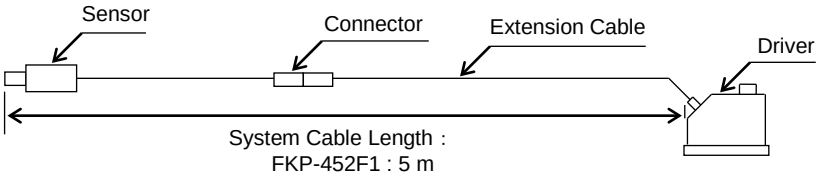
CONFIGURATION



System Cable Length :
FKP-452F1 : 5 m
FKP-452F2 : 9 m