WKN SERIES
TRANSDUCER
SPECIFICATIONS

WKN-142K 2-WIRE VIBRATION TRANSDUCER

CE

SPECIFICATIONS

Current Output	
4 to 20 mA OUTPUT RANGE	0 to 100 μm pk-pk 0 to 125 μm pk-pk 0 to 200 μm pk-pk 0 to 250 μm pk-pk 0 to 400 μm pk-pk
4 to 20 mA OUTPUT CONVERSION ACCURACY	±1.5 % of Full Scale Range (From test signal input pin to current output)
MAX. LOAD RESISTANCE	43.5 × (Vps-12) Ω (Vps=Power supply voltage)
NOT-OK FUNCTION	Current output : 3.6 mA or less. Not-OK condition : Open or short of sensor, Outside of linear range. Delay time to resume ; 2 to 3 seconds after Not-OK condition is removed.
GAP Output (Wave form output)	
CALIBRATION MATERIAL	JIS SCM440 FLAT (AISI 4140 equivalent)
LINEAR RANGE*	1.4 mm (Gap : 0.3 to 1.7 mm)
SCALE FACTOR*	7.87 mV/μm
SCALE FACTOR ERROR*	7.87 mV/μm±6.5 % typ. (including interchangeability errors) Step : 200 μm, Target : 30 mm dia.
OUTPUT IMPEDANCE*	10 kΩ (It is calibrated at load impedance 10 MΩ)
System	
FREQUENCY RESPONSE*	5 Hz to 6,000 Hz (+0 dB, -3 dB) at 900 μm Gap
TEMPERATURE RANGE OF TRANSMITTER	Operating : 0 to 70 °C (32 to 158 °F) Storage : -34 to +100 °C (-29 to +212 °F)
TEMPERATURE RANGE OF SENSOR AND EXTENSION CABLE	Operating : -34 to +177 °C (-29 to +350 °F) (Connector : Max. 125 °C (257 °F)) Storage : -34 to +177 °C (-29 to +350 °F) (Connector : Max. 125 °C (257 °F))
RANGE OF TEMPERATURE AT EXPLOSION PROOF CONSTRUCTION	CSA,ATEX : 0 to +70 °C (Sensor, Ext. Cable & Transmitter)
RELATIVE HUMIDITY RANGE	30 to 95 %RH (non condensing)
POWER SUPPLY VOLTAGE	12 to 35 VDC
SENSOR TIP DIAMETER	Approx. 5.5 mm (0.217 inch) dia.
CABLE DIAMETER	Approx. 2.7 mm (0.106 inch) dia.
CONNECTOR DIAMETER	Approx. 7.1 mm (0.280 inch) dia.
SYSTEM CABLE LENGTH	5 m or 7 m
TRANSMITTER SIZE	WKN-142K□-□-1 (L) 90 mm × (W) 40 mm × (H) 46.2 mm (3.54 in) (1.57 in) (1.82 in) WKN-142K□-□-2 (L) 90 mm × (W) 74 mm × (H) 45.2 mm (3.54 in) (2.91 in) (1.78 in) Mass : Approx. 200 g (0.44 lb)
APPLICABLE WIRE GAUGE	0.2 to 1.5 mm^2 (1.0 mm^2 recommended)

*The above specifications apply at 25 °C with 24 VDC power supply and SCM440 (AISI 4140 equivalent) steel flat target.

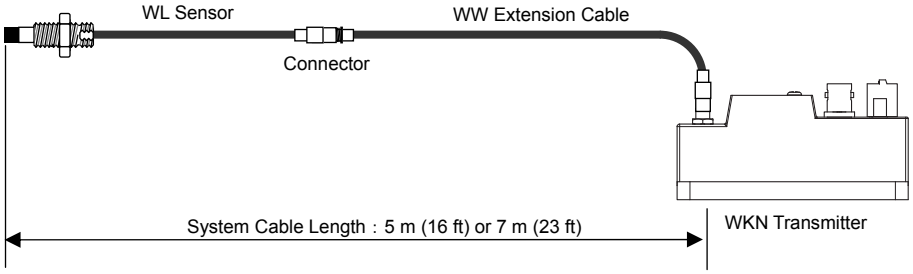
NOTICE

1. CALIBRATION MATERIAL
   MODEL WKN-142K 2-wire Vibration Transmitters are calibrated with JIS SCM440 (AISI 4140 equivalent) flat surface (more than 15 mm dia.).
   It is not calibrated with any other target.
2. 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 the 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.
3. MEGGER TEST OF SIGNAL CABLE
   If megger test is made on the signal cable (2-wire shielded cable), be sure to discharge the charged electric load before connecting the cable to transmitter.
   If this caution is not adhered the transmitter could be damaged.
4. WIRING BETWEEN GAP OUT TERMINAL AND EQUIPMENT
   a). Non-grounding type equipment
   Connect directly with coaxial cable within 3 meters long.
   b). Grounding type equipment
   Use an isolator between the transmitter and the equipment.
   Use coaxial cable within 3 meters long between the transmitter and the isolator.
5. INSTALLATION ENVIRONMENT
   Not available for rainwater at out door use and for occurring place of corrosive gasses.
   It may cause the sensitivity change and insulation down.
6. The instructions manual contains important information such as conditions necessary for safe handling of the system.
   Such information and conditions are important and indispensable for ensuring safety. Therefore, be sure to read the instructions manual thoroughly before handling the system.

Other

Geothermal specification (Additional Spec. Code: /GEO) is not applicable.

CONFIGURATION



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WKN-142K 2-WIRE VIBRATION TRANSDUCER

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

● Transmitter

WKN-142K ＊ - ＊ - ＊ / NB1

System cable length		Output range		Mounting plate		Non-incendive	
1	5 m	1	0 to 100 μmpk-pk	1	35 mm DIN Rail mounting plate	1	CSA C/US: Class Ⅰ, Division 2, Groups A,B,C and D ATEX:Ex nA Ⅱ T4 Gc
2	7 m	2	0 to 125 μmpk-pk	2	Screw mounting plate		
		3	0 to 200 μmpk-pk				
		4	0 to 250 μmpk-pk				
		5	0 to 400 μmpk-pk				

● Extension Cable

WW-142K ＊- ＊ / NB1

Armor		Extension cable length		Non-incendive	
A	With (Without Fluoro resin coating)	1	4.0 m	1	CSA C/US: Class Ⅰ, Division 2, Groups A,B,C and D ATEX:Ex nA Ⅱ T4 Gc
T	With (With Fluoro resin coating)	2	4.5 m		
L	Without	3	6.0 m		
		4	6.5 m		

● Sensor

WL-142K05 ＊ - ＊ ＊ ＊ ＊ ＊ ＊ ＊ / NB1

Armor		Thread size		Unthreaded length* (L1)	Case length* (L2)	Cable length (L3)		Non-incendive	
A	With (Without Fluoro resin coating)	M1	M8 X 1	10 mm step, 0 to 230 mm e.g.) 06=60 mm, L1≤L2-20 mm	10 mm step, 20 to 250 mm e.g.) 25=250 mm	1	0.5 m	1	CSA C/US: Class Ⅰ, Division 2, Groups A,B,C and D ATEX:Ex nA Ⅱ T4 Gc
		M2	M10 X 1			2	1.0 m		
T	With (With Fluoro resin coating)	U1	1/4-28 UNF-2A	0.1 in step, 0 to 9.2 in e.g.) 04=0.4 in, L1≤L2-0.7 in	0.1 in step, 0.8 to 9.9 in e.g.) 35=3.5 in	3	5.0 m		
		U2	3/8-24 UNF-2A			4	7.0 m		
L	Without								

* inch for UNF-2A thread
mm for M thread

WL-142K05R - ＊＊ ＊＊ ＊＊ ＊ /NB1

Thread size		Unthreaded length*	Case length*	Cable length (L3)		Non-incendive	
M2	M10 × 1	05=5mm	30=30mm	1	0.5 m	1	CSA C/US: Class Ⅰ, Division 2, Groups A,B,C and D ATEX:Ex nA Ⅱ T4 Gc
U2	3/8-24 UNF-2A	02=0.2inch	12=1.2inch	2	1.0 m		
				3	5.0 m		
				4	7.0 m		

* inch for UNF-2A thread
mm for M thread

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