

Smart Sensor Interface for Load Cells, Torque and Displacement Sensors

Series 7160

Code:	7160 EN
Delivery:	ex stock
Warranty:	24 months

Preliminary data sheet



7160 EN

- Measuring chain in conjunction with DIGISTANT® 4423
- Stand-alone interface direct to PC
- Interface for force, torque and displacement sensors with „Plug & Measure“ connection
- Specific technical data are managed by a microprocessor
- Universal reference measurement chain with DKD (German Calibrator Service) or factory calibration certificate (option)

Description

The Smart Sensor Interface 7160 allows force, torque and displacement sensors to be connected through the adapter model 7130 directly to DIGISTANT® 4423 using a 5 pin LEMO connector. Data from the connected sensor are recognized via „Plug & Measure“ connection. Select between two different modes for each measurement. A static measurement over a long measurement period followed by a mean value determination (averaging) will achieve a very high degree of accuracy. With dynamic detection, the measurement of peak values is made possible by a high measurement speed.

The module consists of a high resolution 24 bit A/D converter, a „Flash“ programmable microprocessor with low power consumption and an EEPROM. All specific technical data, e.g. serial numbers and calibration data, as well as the data necessary for calculation, are managed by the microprocessor. The serial output signal from the interface is a simple ASCII-based data stream which can be read by DIGISTANT® model 4423 or by the PC.

Together with the Smart Sensor Interface 7160 and, for instance, a load cell, the DIGISTANT® forms a universal reference measuring chain which can also be supplied with a WKS or DKD calibration certificate.

With a model 7130 adapter, all the pressure modules can also be connected, as well as the Smart Sensor Interface.

Technical Data

Connectable sensors

Strain gauges

Connection technology:	6 wire	Static measurement rate:	3/s
Bridge resistance:	350 Ω to 2000 Ω	Dynamic measurement rate (for max./min.-detection):	adjustable
Bridge voltage:	± 0.5 mV/V to ±3.333mV/V		3/s
	> ± 3.333 mV/V to ≤ ±6.667mV/V		10/s
	> ± 6.667 mV/V to ≤ ±10 mV/V		50/s
			100/s
Sensor excitation:	approx. 4.5 V max. 35 mA		500/s
			1000/s

Potentiometer

Path resistance:	500 Ω to 20 kΩ	Averaging:	X/1, X/2, X/4, X/8, X/16 and X/32
Sensor excitation:	approx. 4.5 V max 35 mA	Points of linearity:	2 to 21 points
		Non-linearity:	0.007 %
		Common mode:	120 dB
		Input resistance:	> 20 MΩ
		Cut-off frequency:	up to 5 kHz

General Data

Indicator:	Indicator DIGISTANT® Model 4423 or transferred to PC	Stability:	100 ppm/K (beyond 23 °C ± 5 °C)
Range of indication:	-200 000 to 200 000 adjustable	Range of operation temperature:	0 °C up to 50 °C
Decimal point:	freely programmable	Range of storage temperature:	- 30 °C up to 60 °C
Measurement error:	0.02 % of measured value + 5 µV (23 °C ± 5 °C)		
Methods of measurement:	static modus dynamic maximum dynamic minimum dynamic Peak-to-Peak dynamic active value		

Application

Checking press-in forces



DIGICAL PC software

Press

Load cell

Adapter 7130

Smart Sensor Interface 7160

All the specific data for the connected interface are stored in the Smart Sensor Interface model 7160.

The data is downloaded directly from 7130 adapter, printed as protocol and exported to Excel by 4423-P001 software. Doing this the software offers a distinctive "Plug & Measure"-Function.