Digital Displays for Incremental Position Sensor

Series 9140

Code:	9140 EN
Delivery:	ex stock/4 weeks
Warranty:	24 months

- **Display resolution from -999999 ... 999999**
- **Resolution to 0.1 µm**
- **Peak value memory for min, max and peak-to-peak**
- **Classifier comparator**
- **Up to 2 measuring channels**
- **RS232 interface**
- **Mathematical functions**

Application

The incremental digital displays are used in combination with our high-precision displacement sensors 8738. The digital technology of these measuring systems satisfies high demands for precision and long service life, as is required more and more nowadays

- ► in measuring laboratories
- ► in production
- ► in testing laboratories
- ► in workshops

and many other areas.

Typical uses:

- ► Automatic assembly machines
- ► Semiconductor industry
- ► Keyboard tests
- ► Robot controllers
- ► Testing of shafts and planes
- ► Measurement of differential displacement

Description

With its phenomenal resolution of 0.1 µm and the high response frequency of 20 MHz, the 9140 is a powerful display unit with a compact design. The comparator function integrated as standard allows for direct evaluation of measurements almost in real-time; these can be processed further by a higher-level controller. A rather more comprehensive acquisition method is also integrated into the system. Device settings can be made either through the keypad on the front, or through the optionally available serial interface.

The two-channel version also offers simple mathematical functions such as addition and subtraction. These are particularly handy for differential displacement measurements.

9140 EN

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Technical Data

Display resolution:		± 999 999
Resolution:		0.1 µm, 0.5 µm, 1 µm, 5 µm, 10 µm selectable
Cut-off frequency:		20 MHz
Power supply:		10.8 ... 26.4 VDC, max. 12 VA
Working temperature range:		0 °C ... 40 °C
Range of storage temperature:		10 °C ... 50 °C
Dimensions:		
Panel meter (W x H x D)	Front plate	72 x 72 x 104.5 [mm]
	cut-out	$68^{+0,4}_{+1}$ x $68^{+0,4}_{+1}$ [mm]
	Radius, corners of cut-out	4 R1 or less

Order Code

Displacement indicator **9140 - V** [0] [0] [0] [0]

Standard

Sensor model	
8738-DK	0
8738-DG	1
Interface	
without	0
with RS232	1
with BCD output	2
Device type	
1 channel	0
2 channel	1

Functions

Reset (via reset button, control input or RS232C command):
The display is returned to zero or to a previously entered initial value.

Initial value:
Any desired display value can be assigned to any point in the range of measurement.

Comparator:
2 limit values for good/bad evaluation, results displayed by 3 LEDs, 3 NPN open collector outputs.

Extreme values:
Maximum value, minimum value, peak-to-peak value, start via reset button or RS232C command.

Hold function:
The START control input will store the current measured value in the "extreme value storage" mode.

Sum/difference:
The functions A + B, A - B and B - A can be executed by the 2 channel version.

Data transfer:
Started by a low level at the EXT.IN control input.

Serial interface RS232C, full duplex:

Baud rate:	600 ... 19200
Interface cables:	see accessories
Transmission rate	max. 10 measurements/s

Accessories

Interface cable, length 2 m, with 9 pole Sub D socket **Model 9140-K001**

Adjustment,
for a measurement chain **Model 91ABG**

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