

FEATURES

- Loop powered
- Plug-in directly to transmitter
- Loop voltage drop only 3 V at 20mA
- Large display range of -1999 to 9999 digits
- Scale easily adjustable to transmitter range



The DDI6000 display can be used with all 4...20 mA output devices of the following Sensortechcnics transmitter series:

KTE/KTU3000

KTE/KTU6000

BTE/PTU6000

BTE/PTU4000

GENERAL DESCRIPTION

The DDI6000 is a microprocessor controlled loop powered display for any 4...20 mA standard signal. It does not require its own separate voltage source as it is supplied directly from the measuring current loop.

The measured value is displayed on a 4-digit LCD with a wide max. display range of -1999 to +9999 digits.

The operating range of the display device can be directly adjusted to the transmitter without any accessories being required. Simply enter the maximum and minimum measuring range limits and the decimal point position.

Parameter and limit values are entered via three keys which are accessible after removal of the cover. All programmable parameters of the DDI6000 are saved in an EEPROM. In case of a current failure they will be stored for at least 10 years.

The DDI6000 is equipped with a self-diagnosis system to continuously monitor the essential parts of the device for their correct function. An additional monitoring system checks for the sensor for "sensor damage", "sensor short circuit" or values exceeding or falling below permissible limits. Both systems ensure maximum operational reliability of the device.

Prior to delivery the DDI6000 will be tested and accurately calibrated.

However, prior to starting your installation please configure the device for your application. Please refer to chapter "Configuration".

DDI6000

Plug-in display for 4...20 mA measuring transmitter

TECHNICAL SPECIFICATION

Input signal	4...20 mA (2-wire)
Max. allowed input current	40 mA
Reverse voltage protection	Polarized plug
Voltage load	approx. 3 V
Display	10 mm high LCD-display
Display range	starting and end value freely selectable
Maximum display value	9999 digits
Minimum display value	-1999 digits
Decimal point	any position
Measuring accuracy	0.2 % ±1 digit
Temperature drift	100 ppm/°C
Measuring interval	approx. 5 measurements / sec.
Filter	3 stages can be switched on
Nominal temperature	25 °C
Ambient temperature	0 to 50 °C
Relative atmospheric humidity	0 to 80% (non condensing)
Electromagnetic compatibility additional error:	In accordance with EN50081-1 and EN50082-2 < 1 %
Housing	ABS. Front screen made of polycarbonat 48.5 x 48.5 x 35.5 mm (L x W x D)
Connection	Specially designed adaptor for cubic plug DIN43650 for simple connection.
IP rating	Front side IP65

ELECTRICAL CONNECTION

To connect the DDI6000 simply plug into an existing transmitter by means of a special adaptor for the DIN43650 plug.

Supply voltage: Device takes power directly from measuring current.
Please allow for an additional loop voltage drop of 3 Volts.

Caution! Wrong electrical connection may lead to the destruction of the device.
Mind the maximum input current rating of 40 mA under any circumstances!

FAULT CODES

In case of unacceptable conditions in the system a fault code will be displayed.

Fault codes have been defined as follows:

FE 1: Measuring range has been exceeded

This fault code indicates that the measuring range of the A/D converter has been exceeded.

Potential fault cause: Transmitter damaged
Short-circuit in transmitter connection
DDI6000 not or incorrectly configured

Remedies: FE 1 will be reset as soon as the measuring values return to their permissible range. Please check your transmitter and transmitter connecting cables.

FE 2: Measuring values have fallen below permissible range

This fault code indicates that the measuring values of the A/D converter have fallen below the permissible range.

Potential fault cause: Transmitter damaged
Transmitter connection interrupted
DDI6000 not or incorrectly configured

Remedies: FE 2 will be reset as soon as the measuring values return to their permissible range. Please check your transmitter and transmitter connecting cables.

CONFIGURATION

Please note: Measuring current should be at least 4 mA during configuration!

1. Press button 1, "dP" (decimal point) will be displayed.
Select decimal point position desired using buttons 2 and 3.
Acknowledge decimal point position by pressing button 1. "dP" will be displayed again.

2. Press button 1 once again, "An4" (display for 4 mA) will be displayed.
Use buttons 2 and 3 to set value to be displayed for an input signal of 4 mA.
Acknowledge value displayed by pressing button 1. "An4" will be displayed again.

(Buttons 2 and 3 are equipped with a scrolling function, i.e. the value will be increased respectively decreased by 1 digit when pressed briefly (no more than 1 s). When pressing for a longer time (over 1 s) the values start "scrolling" with the speed being increased after approx. 6 s.)

3. Switch over to the next parameter by pressing button 1 again. "An20" will be displayed (display for 20 mA).
Use buttons 2 and 3 to set value to be displayed for an input signal of 20 mA.
Acknowledge value displayed by pressing button 1. "An20" will be displayed again.

4. Press button 1 once again. "LI" (limit) will be displayed.
Select measuring range limits desired using buttons 2 and 3.
0 = Values exceeding/falling below limits are acceptable. (FE1, FE2 displayed for hardware limits)
1 = Values exceeding/falling below limits are not acceptable. (FE1, FE2 displayed for area limits)

Acknowledge selection made by pressing button 1. "LI" will be displayed again. For pressure measuring transducers always enter "LI 0", for relative humidity, pH and similar measuring units always enter "LI 1".

5. Press button 1 once again. "FILt" (filter) will be displayed.
Select input filter 0, 1, 2 or 3 desired using buttons 2 and 3.
0 = no filter
1 = filter 1 active
2 = filter 2 active
3 = filter 1 and 2 active

Filter 1: For filtering short pikes occurring when relays and contactors are switched. Make sure to always activate filter 1 if high loads are switched in the vicinity of the DDI6000, wires or the sensor or if large pikes are to be expected.

Additional display delay: approx. 0.5 s

Filter 2: Prevents "jumping" of the last figure, a phenomenon often found with digital displays and controllers. Make sure to always activate filter 2 if the display range exceeds 2000 digits.

Additional display delay: approx. 1 s

Acknowledge selection made by pressing button 1. "FILt" will be displayed again.

The adjustment of the DDI6000 to the transmitter is now completed. The DDI6000 can be immediately switched over to display the current measuring value by pressing button 1.

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