

excom I/O System Input Module, Digital, 8-channel DI80-N



The digital input module DI80-N serves for connection of eight 3-wire PNP/NPN sensors (IEC 61131, Type 3). The sensors are not powered via the module, but via a reverse-polarity protected auxiliary energy which is fed separately via the terminals to the channels 1 ... 4 (group 1) and 5 ... 8 (group 2). The input groups are galvanically isolated from each other.

The input behavior is parameterized via the Fieldbus master. Possible parameters are switching behavior (PNP or NPN), polarity, substitute value strategy, wire-break monitoring, short-circuit monitoring and flutter monitoring.

Flutter monitoring detects and reports procedually unusual signal patterns, for example too frequent fluctuation of the input signal between "0" and "1". The occurrence of such signal patterns is an indication of faulty sensors or process-related instabilities. For each input channel there is a parametrizable monitoring window. With the first signal change of the input signal, the monitoring window is started. If the input signal changes more often within the monitoring window than the configured number of signal changes, this is recognized as a flutter error. If no flutter error is detected within the monitoring window, then the monitoring window is started again with the next signal change.

If a flutter error occurs, the current signal status is entered in the process image and the value status of the signal is set to "invalid". In addition, the diagnostic information "flutter error" is entered and an incoming diagnostic alarm is triggered. The value status and diagnostic information can be evaluated and processed in the user program. If no more fluttering of the input signal has been recognized within the triple monitoring window, the diagnostic entry is removed and an outgoing diagnostic alarm is triggered. The status of the current signal in the process image is set to "valid".



- Input module for 3-wire sensors (NPN and PNP)
- Supply of sensors reverse polarity protected via auxiliary power



Dimensions

Туре	D180-N
ID	6884273
Supply voltage	Via module rack, central power supply module
Power consumption	≤ 1 W
Galvanic isolation	two isolated groups
Number of channels	8
Input circuits	
Auxiliary power	2 × (19.230 VDC)
Power dissipation	≤ 1.2 W
Switching frequency	≤ 50 Hz
Short-circuit	< 500 Ω
Wire-break	< 0.2 mA
3-wire input	
0-signal	≤ 5.0 V
1-signal	≥ 11.0 V
Output circuits	
Output current	≤ 500 mA
Short-circuit protection	yes, cyclic
Ex approval acc. to conformity certificate	IECEx TUR 21.0012X
Ex approval acc. to conformity certificate	TÜV 21 ATEX 8643 X
Device designation	🐼 II 3 G Ex ec IIC T4 Gc
Device designation	🐵 II 3 G Ex ec IIC T4 Gc
Device designation Displays/Operating elements	🐵 II 3 G Ex ec IIC T4 Gc
Device designation Displays/Operating elements Operational readiness	© II 3 G Ex ec IIC T4 Gc 1 × green/red
Device designation Displays/Operating elements Operational readiness State/ Fault	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red
Device designation Displays/Operating elements Operational readiness State/ Fault	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity	 (i) II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 8 × yellow/red 9 Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test	II 3 G Ex ec IIC T4 Gc 1 × green/red 8 8 × yellow/red 9 Plastic 9 module, plugged on rack 1 IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-27
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-27 acc. EN 61326-1 (2013)
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-77 acc. EN 61326-1 (2013) acc. to Namur NE21 (2012)
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-7 acc. EN 61326-1 (2013) acc. to Namur NE21 (2012) 55 years acc. to SN 29500 (Ed. 99) 40 °C
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC MTTF Dimensions	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-77 acc. EN 61326-1 (2013) acc. to Namur NE21 (2012) 55 years acc. to SN 29500 (Ed. 99) 40 °C 18 x 118 x 106 mm
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC MTTF Dimensions	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-77 acc. EN 61326-1 (2013) acc. to Namur NE21 (2012) 55 years acc. to SN 29500 (Ed. 99) 40 °C 18 x 118 x 106 mm
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC MTTF Dimensions Approvals	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-7 acc. to Namur NE21 (2013) acc. to Namur NE21 (2012) 55 years acc. to SN 29500 (Ed. 99) 40 °C 18 x 118 x 106 mm
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC MTTF Dimensions Approvals	Image: Second Secon
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC MTTF Dimensions Approvals	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-7 acc. EN 61326-1 (2013) acc. to Namur NE21 (2012) 55 years acc. to SN 29500 (Ed. 99) 40 °C 18 x 118 x 106 mm ATEX cFM us cFM
Device designation Displays/Operating elements Operational readiness State/ Fault Housing material Connection mode Protection class Ambient temperature Relative humidity Vibration test Shock test EMC MTTF Dimensions Approvals	 II 3 G Ex ec IIC T4 Gc 1 × green/red 8 × yellow/red Plastic module, plugged on rack IP20 -40+70 °C ≤ 93 % at 40 °C acc. to IEC 60068-2-78 Acc. to IEC 60068-2-6 Acc. to IEC 60068-2-77 acc. EN 61326-1 (2013) acc. to Namur NE21 (2012) 55 years acc. to SN 29500 (Ed. 99) 40 °C 18 x 118 x 106 mm ATEX cFM us cFM IECEx



Hans Turck GmbH & Co.KG • D-45472 Mülheim an der Ruhr • Witzlebenstraße 7 • Tel. 0208 4952-0 • Fax 0208 4952-264 • more@turck.com • www.turck.com2 / 2