sartorius

X3 Process Indicator

• Ethernet TCP/IP Connection for
  Remote Control
  - Configuration via VNC
  - OPC Server

• W&M approval with 10.000e acc.
  to EN 45501 / OIML R 76

• Serial Interface RS232 for Printer
  or remote display

• 3 digital In- and 3 Outputs for limit
  function

• Optional Interfaces:
  - Serial Interface (RS 232 or RS 422/485)
  - Analogue - / BCD Output
  - PROFIBUS-DP, DeviceNET,
    Interbus-S, Modbus-TCP, CC-link)

• Transflective LCD Display, back lighted

• Panel Housing with IP 65 Front

Product profile
The new X3 Process Indicator provides an easy and reliable solution for process hopper scales with strain gauge load cells in process automation applications .

The X3 Process Indicator sets new standards in Process automation. The standard Ethernet TCP/IP interface allows an easy integration into existing PC networks. Information can be transferred into supervisory systems with the integrated OPC-Server technology.

The IP address can be assigned via the 3 following possibilities:
1. Manual input of the IP address by the user
2. Automatic assignment from a network
   server (DHCP)
3. Auto IP, self-assign by the instrument

If the IP Address is not known by the user, a small tool is scanning the complete network and displays IP address and name of all Sartorius Instruments that are connected to the network.

With this function all instruments / scales can be clearly identified. The tool is delivered with the Process Indicator and can be used without installation.

There are three possibilities for the configu-ration.
First is the configuration via the front keys.
Second is the VNC-technology. This function enable the user to start the homepage of the instrument in the Microsoft Internet Explorer and do the configuration online.
Third possibility is to use the tool ConfigureIt Professional. With this tool all configurations can be done online or offline and saved on the PC. This makes the administration of different systems very easy and well arranged.

The flexibility of the instrument with diffe-rent options as serial and digital interfaces or fieldbus allows a simple integration into automation systems.
Also a high resolution 0/4-20mA analogue output card is available. With two interface slots, the system can easily be extended also years after the investment. This gives invest-ment protection.

The X3 Process Indicator is available in a robust aluminium housing for front panel mounting. Utmost interference suppression and longterm stability guarantees optimum use in harshest environments.

The LCD weight display with 18mm characters is back lighted and transflective. It allows a good readability even under difficult conditions as e.g. direct sunlight.

Three freely configurable digital In- and Outputs can control simple process functions, like limits.

Take control direct on the display or via PC. Do you think about Wireless LAN? Use the possibilities of the Ethernet TCP/IP. Remote Service via the Internet, allows support from every point of the world.

The high-quality Sense-amplifier supports 4 and also 6 wire Load Cells. This allows connections over long distances without losing accuracy.

Additional security guarantees the fully galvanically isolated sensor input circuit and supply from supply voltage and all in-/out-put circuits.

Technical Data

Housing
Dimensions: 192 x 96 x 150 mm
Panel cutout:
$187^{+0,5}$ x $91^{+0,5}$ mm
Material: Aluminium
Protection class: IP 30
Front panel: IP 65

RoHS conform

Supply Voltage
110V/240V$_{AC}$, –15%/+10%,
50/60Hz or: 24 V$_{DC}$

Power Consumption
13VA / 11W

Display
LCD, transflective, back lighted
Elements: 6-digits (7 Segments)
figure height: 18 mm
Colour: black/ white with
weight- and status symbols

Keyboard
6 double function keys
(short lift keys)

Status Indicator
-> 0 <- zero display within
± 1/4d standstill
$_B$ gross weight display
$_{NET}$ net weight display
$_T$ tare weight display
Dimensions can be set for:
g, kg, t, lb
Decimal point can be set

Control outputs
Quantity: 3
opto-isolated output, passive,
Voltage: max. 30V$_{DC}$
Current: max. 30mA

Control Inputs
Quantity: 3,
opto-isolated input, passiv,
Functions: zero setting, taring...
Voltage: max. 30V$_{DC}$
Current: max. 10mA

Load cell connection
All strain gauge load cells;
6- or 4-wire connection

Load cell supply
12V, short-circuit proof.
External load cell supply possible.

Minimum load impedance
min. 75 Ohm
e.g. 6 load cells with 600 Ohm
or 4 load cells with 350 Ohm

Measuring principle
Measuring amplifier:
Delta-Sigma converter
Measuring time:
min 5 ms - max. 1600 ms

Accuracy
10.000e class III acc. to EN 45501;
according to. OIML R 76,
min. verification interval: 0.5µV/e

Input range
7,5 nV (appr. 4,8 Mio. div.)
Usable resolution: 200nV

Input signal
Measuring signal: 0 bis 36mV
(for 100% nominal load)

Linearity
< 0,003%

Temperature effects
Zero: TK$_0$ m < 0.05 µV/K RTI
Span: TK$_{span}$ < +/- 2,5 ppm/K

Digital filter for load cell
4th order (low pass), Bessel, aperiodic
or Butterworth

Ethernet interface
Ethernet TCP/IP
definition of an IP address:
- AutoIP
- DHCP Server assignment
- manual input of an IP address

Automatic detection of signal
transmission and corresponding
change over (auto cross-over)
(cross-over or patch cable)

Environmental conditions
Temperature
W&M: –10℃ bis +40℃
Operation: –10℃ bis +50℃
Storage: –20℃ bis +70℃

Electrostatic discharge
6/8kV according EN 61000-4-2

Electromagnetic compatibility
according EN 61000-4-3
by 80MHz to 1GHz, 10V/m

Peak voltages (surge)
1/2kV according EN 61000-4-4

Electromagnetiv emissions
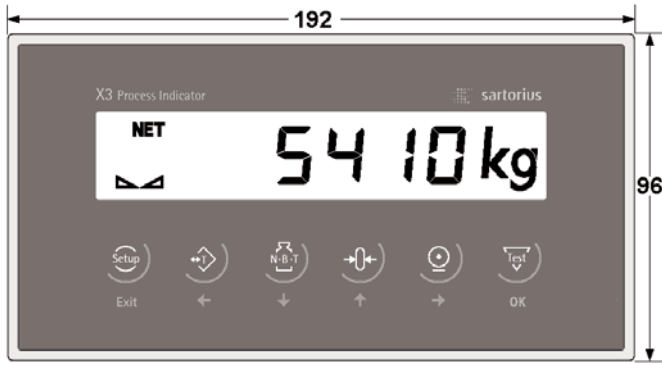According EN 61326,
limed value class A

Protection class
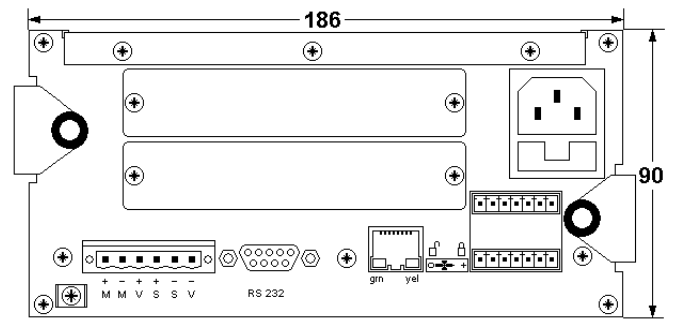Front panel IP65
Housing IP30

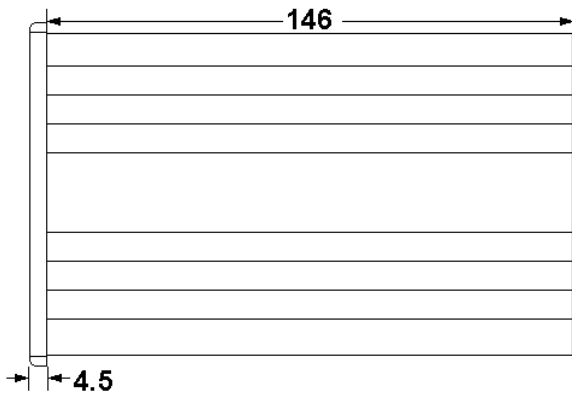## Packing size
291 x 331 x 160 mm

Weight
Net: 1,45 kg
Gross: 2,3 kg

Front view*

Back view*

Side view*

Panel cut out*

187 + 0,5 x 91 + 0,5

*Dimensions in mm

Order Information
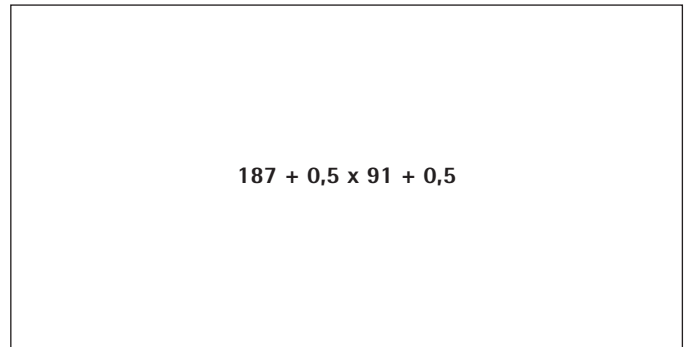
Type	Description	Order number
PR 5410/00	X3 Process Indicator, 110- 230 V	9405 154 10001
PR 5410/01	X3 Process Indicator, 24 V DC	9405 154 10011

Options

PR 5510/04	Serial Interface Card 1x RS232 und 1x RS485	9405 355 10041
PR 5510/07	Analogue 4 In- / 1 Output	9405 355 10071
PR 5510/08	BCD open emitter	9405 355 10081
PR 5510/09	BCD open collector	9405 355 10091
PR 5510/12	Digital 6 In- and 12 Outputs	9405 355 10121
PR 5510/14	Ethernet Modbus TCP	9405 355 10141
PR1721/31	Profibus-DP	9405 317 21311
PR1721/32	Interbus S	9405 317 21321
PR1721/34	Device NET	9405 317 21341