gwt

PRO-X4

global weighing technologies

■ Programmable Process Controller
  (acc. to IEC 61131)

■ EC Type Approval as Indicator
  for non-automatic scales
  class III, 6000e

■ Optional
  – Fieldbus-Interfaces:
    Ethernet, Profibus,
    DeviceNet, Interbus, CC-Link
  – analog in-/outputs
  – digital in-/outputs
  - internal/external Alibi-memory

■ Easy integration to automation
  concepts

The X4 Process Controller is a multiple use device for precise weighing applications for industrial environment.

A wide range of interface options make it feasible for integration in all up-to-date automation concepts.

The housing is designed for easy installation into switch cabinets, operating panels or direct at the machinery as a front-end unit.

The bright weight display with 7 digits plus units and status symbols guarantees a good readability even under harsh conditions.

Additional two text lines are foreseen each with 20 characters. Under the text lines functionkeys are arranged. The meaning depends on the application and guides the operator through the menue.

The keys have a double assignment. The second level enables the operator to enter also alphanumeric characters.
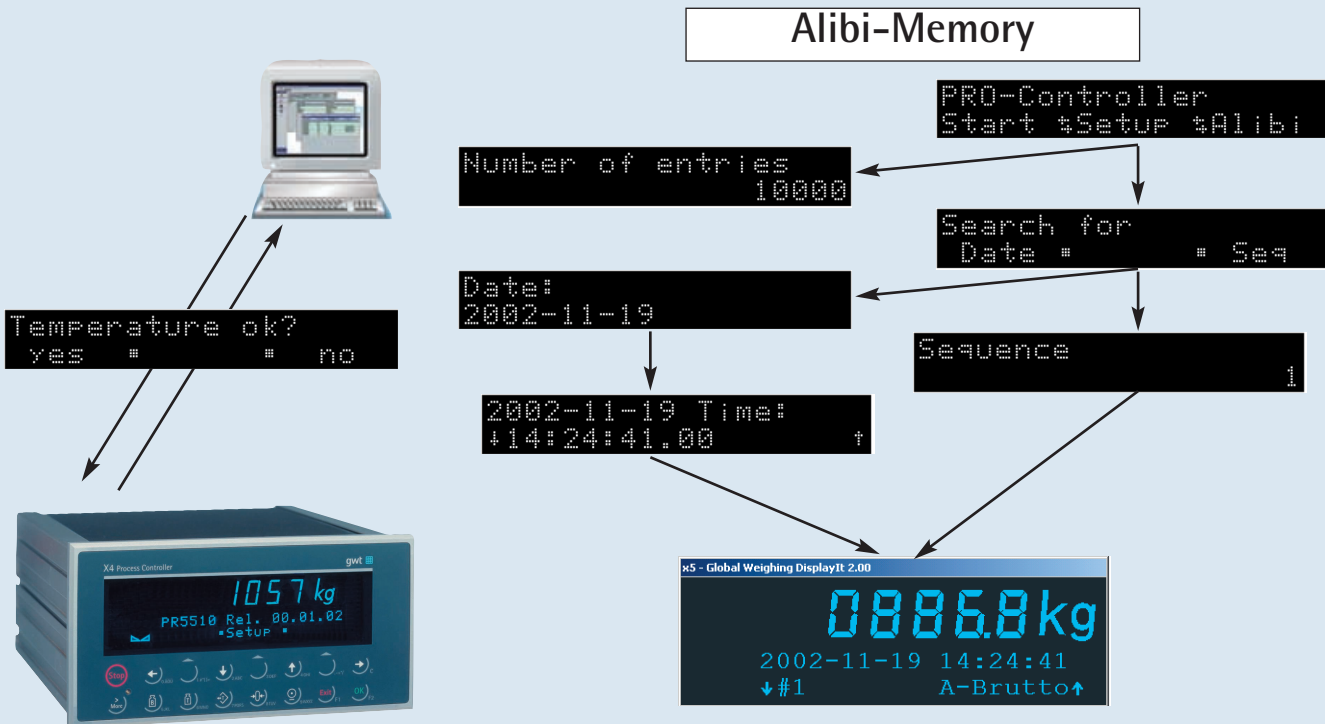
The X4 Process Controller enables the connection of an external PC-keyboard to upgrade the operation comfort in case of data entry.

The X4 Process Controller offers beside the normal indicator and weighing functions several interfaces and an internal alibi-memory as an option.

The communication channels are:

● Serial RS232/485

● Ethernet

● Fieldbus
  - Interbus S
  - Devicenet
  - Profibus DP
  - CC-Link

The terminal function allows the dialog with a host either PC or PLC.

●●● sartorius group

Alibi-Memory

```
PRO-Controller
Start ↕Setup ↕Alibi
```

```
Number of entries
                  10000
```

```
Search for
 Date ▪          ▪ Seq
```

```
Date:
2002-11-19
```

```
Sequence
                      1
```

```
Temperature ok?
 Yes ▪          ▪  no
```

```
2002-11-19 Time:
↕14:24:41.00        ↑
```

```
1057 kg
PR5510 Rel. 00.01.02
       ▪SetUP ▪
```

```
x5 - Global Weighing DisplayIt 2.00
0886.8kg
2002-11-19  14:24:41
↓#1              A-Brutto↑
```

Terminal-function

Many weighing processes needs a dialog with the operator. The PRO-X4 offers an ideal combination between a high precision instrument on one hand and terminal for a SCADA System on the other hand. The weight signals will be detected, converted, stored and if necessary transmitted serial via Ethernet or fieldbus options. These is also valid for typical indicator functions like i. e. tare and zero setting. The two-line-display with function keys and alphanumerical keypad can be used to indicate transmitted commands or messages and to edit or enter values and to re-transmit to the host. Contents and sequences are controlled only from the host with simple predefined commands.

Internal/External Alibi-memory

There are two possibilities to realise an alibi memory.

Internal:

To define a fixed memory size for the data write to the alibi memory the Cal switch must be open.

Data set contains date/time, weight and a sequence number. The reserved memory area is fixed and so it is secured to have the data always available.

The size depends on the application and howmany procedures have to be stored.

Entries of 15000 data sets cover approx. 960 kB. During normal operation the display can show the entries. Search criteria are date/time or sequence number.

External:

To store a bigger number of data it can be necessary to use an external alibi memory.

For this purpose the OmniScale device is available. During configuration the slot where the external device will be connected have to be defined. Storage medium is a Flash-card. Data set contains also date/time, weight and a sequence number.

To read out the data to a PC, the omniscale can be connected via the serial interface or with the OmniDrive via parallel interface.

Input configuration

↓Input config.   ↑

Input config.
↓Slot 1 ↑

Slot 1 Input   ↓ 1↑
↕Tare A   ↕

Functions of inputs

Tare in , Tare out , Set zero,

Printou active (new Data, Alibi, print)

Repeat printout active

Interlock1: only Terminal mode.

Interlock2: 'Setup' not allowed.

Keep output value at Slot 1or2

Slot		1	2	3	4
PR5510/04	Serial I/O RS485/422+RS232	●	●		
PR5510/06	Analog out				●
PR5510/07	1 Analog out / 4 analog in	●	●		
PR5510/08	BCD out / open emitter	●	●		
PR5510/09	BCD out / open collector	●	●		
PR5510/12	Control I/O 6/12 opto	●	●		
PR5510/14	Ethernet interface			●	
PR1721/35	CC-Link Interface			●	
PR1721/31	Profibus interface			●	
PR1721/32	Interbus interface			●	
PR1721/34	Devicenet interface			●	

Layout 1:

Scale:	Station1
Sequence:	27
Date:	20.11.2002
Time:	11:06:59
Gross:	A <0687.5 kg>
Net:	A <0127.5 kg>
Tare:	A <0560.0 kg>

Netto
15960 kg

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Werk Hamburg
Tor Nord

Beleg Nr.:   3
Auftragsnummer: 984563
Mustermann & Co
Kiesgrube 3
Meiendorfer Str. 205
22145 Hamburg

2002.02.18 16:39:39   21600 kg
1. Gewicht
2002.02.18 16:39:48   5640 kg
2. Gewicht

Kies Korn 20 mm

56973

Label
(designed with NiceLabelExpress)

Layout 2:

2002-11-30-11:06:59 #27   Gross: A <0687.5 kg>

I/O Configuration

Witin the configuration mode you can assign pre-defined functions to the I/O's. The type of interface card in the specific slots will be detected automatically. So also the analog and BCD interface will be recognised.

To choose the desired function it is necessary to scroll through the menu shown on the display and assign it to a certain in- or output.

Options

In total 4 slots are incorporated to equip the device with option cards.

Slot1-2 are assigned for digital, analog and serial interfaces.

Slot 3 is designed for the Ethernet card and all other fieldbus interfaces.

Slot 4 is only designed for the analog card PR5510/06.

By using the analog boards please take into consideration that certain restrictions regarding the power consumption have to be calculated.

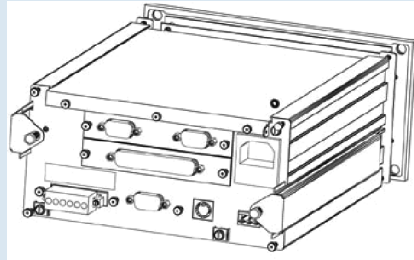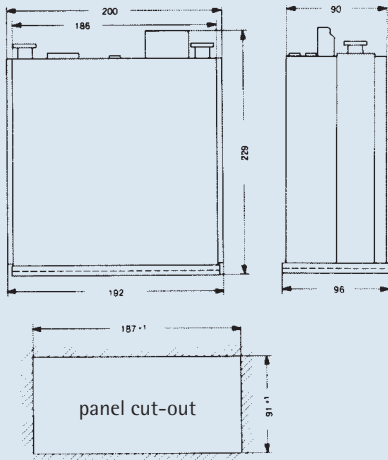In case an Ethernet or Fieldbus option is used, only Slot 1 can be equipped.

Printouts

Two different print layouts are pre-defined and stored in the PRO-X4 as shown on top.

To redesign a layout according to special requirements two ways are offered by the system.

1. By means of the programming tool PR1750NT the pre-defined formats can be modified.

2. By means of the program NiceLabel-Express (NLE) formats can be free designed on a PC. The results are label files, which will be downloaded to the device and filled with variables during printout.

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Technical Data PRO-X4

panel cut-out

Power supply
115-230 V$_{AC}$ 50-60 Hz +10 %/-15 %
max. 19 VA

Housing
Material: Aluminium
Protection class: IP30
Front panel: IP65

Display
7-Digit plus status symbols
text: 2 lines, 20 characters

Load cell input
6- or 4-wire
Load cell supply: 12 V$_{DC}$
Impedance: min. 75 Ohm,
e.g. 12 load cells with 1080 Ohm

*preliminary data

Interface
- Built-in bidirectional serial interface
  RS232; user selectable protocols:
  remote display, printer
- Keyboard interface PS2

Accuracy
6000e OIML R76
min. verification interval 0,5 µV*

Linearity
0.002 %*

Resolution
2.5 Mio. counts for 1 mV/V*

Measuring time
10...160 ms, adjustable

Filter
4-pole digital filter 0.1 to 5 Hz

Input signal range
0...36 mV
Dead load suppression 100 %

Temperature influence
Zero: <0.05 µV/K RTI
Span: <+/-4 ppm/K

Environmental conditions

Temperature range
Operation: -10 °C to +40 °C
Storage: -40 °C to +70 °C

Electrical safety
according to IEC 61010-1

Vibration
according to IEC 60068-2-6

Conformity
EN61000-6-2 and
EN61000-6-4
NAMUR, CE

Order information

	order code		order code
PRO-X4 230 V	PR 5510/00	4 analog In-/1 analog Output	PR 5510/07
Options		BCD open emitter	PR 5510/08
Serial interface card (RS 232/485)	PR5510/04	BCD open collector	PR 5520/09
6 dig. In-/12 dig. Outputs (Opto)	PR5510/12	Ethernet	PR 5510/14
1 analog Output	PR5510/06	Profibus DP	PR 1721/31
Internal Alibi-Memory (Licence)	PR8901/81	Interbus S	PR 1721/32
		DeviceNet	PR 1721/34
		CC-Link	PR 1721/35

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