sartorius intec

Maxxis 5
Process Controller with BASIC Application

– Process Controller for the automated control of weighing processes with up to four scales

– Wide range of opportunities for flexible integration such as option cards, housings and EX approvals

– DAT, multilingual easy-operation interface, backup function, service reports, simulation

– BASIC Application with weighing, check and remote terminal function

– With an additional license: Internal alibi memory, OPC server, tilt correction

– Supplied with Ethernet TCP│IP, Modbus TCP, RS232, RS485, USB, SD Card, 4 digital I│0

DAT®

Made in Germany

The Maxxis 5 from Sartorius Intec combines accuracy, connectivity and functionality to provide a process controller unlike any other. Specifically designed to solve many of the problems faced by today's manufacturers, the Maxxis 5 easily takes control of all modern automation processes.

As a multiple use device, the Maxxis 5 is pre-programmed to control a diverse range of complex applications. Sartorius' expert team of software engineers, in conjunction with industry specialists, have created software solutions that allow the unit to seamlessly integrate into any process. However, users who require it can utilise the easy to use IEC61131 programming language to implement their own unique functionalities.

Equipped with an internal web server, the Maxxis 5 can be controlled via any standard web browser, or a remote display with VNC capabilities. Additionally, a wide range of interface options, USB connections and an Ethernet Port ensure the Maxxis 5 is able to connect with any existing infrastructure.

To suit the diverse requirements of Industry applications, the process controller is available in any of three different constructions allowing panel mounting, direct-at-machine front-end integration or use as a table-top unit.

The harsh environments process controllers are expected to operate in demands a robust design. The Maxxis 5 is constructed from high quality stainless steel and utilises a wide surface area and bright backlit display to ensure inputting and readout accuracies in the toughest conditions.

The Maxxis 5 is equipped with all the features users have come to expect from process technology, and numerous innovative ones that further simplify and increase the accuracy of industrial processes. Automatic back-ups save data to SD cards providing full transparency and traceability, whilst specifically tailored reports and service reports track overload and user changes and deliver this data direct to users.

To make sure that even novice users can control complicated applications with ease, an integrated help function is installed on the Maxxis 5.

The Maxxis 5 with BASIC application is equipped with many interchange and weighing functions.Communication independent and predefined dialogs can be utilised through the connection of a host PC or PLC, combining both the job of weighing and terminal control into a single unit. Users can also choose to combine simple checkweighing functions and tilt corrections to suit their specific weighing procedures.

Function of the BASIC Application

The BASIC Application is the entry level Maxxis 5 yet it contains a wide variety of functions such as weighing, simple check weighing and use as remote terminal. Additionally, functions like tilt correction can be activated with a license.

Up to 4 separate scales can be connected to a Maxxis 5 process controller:

– 2 analogue scales can be connected using analogue inputs

– 2 additional scales can be connected via different interfaces, e.g. serial communication

– Equipped with an Internal Alibi Memory, the Maxxis 5 can display stored values either on the device or via print outs

– Thanks to a broad selection of communication options, values and signals can be read from, and written to the Maxxis 5 BASIC controller. A PC can communicate with the unit via OPC, over Ethernet, or via Modbus TCP. Additionally, a PLC can integrate with the controller via a fieldbus, analogue or serial communication.

Additional functions:

– Configurable limit function with 3 limits per scale combined with conditions and actions

– Configurable digital inputs and outputs for using weighing information for actions like refilling the scale

Tilt Correction (enabled by license)

The tilt correction in combination with the weighing function allows for the minute adjustment of weighing information in line with other values. This could include factors such as the accurate adjustment of analogue inputs. In W&M approved applications the tilt correction function is disabled.

Weighing Function

– The TFT color graphic display shows weight values of up to 7 digits with decimal points and plus or minus signs. Available mass units are t, kg, g, mg, lb and oz. The currently displayed weight is shown as a bar graph in relation to the maximum capacity, for easy recognition of the content

– Weight values can be printed via a configurable report

– Preset tare values can be saved and used for selected weighing procedures

– A database can be used to store a wide selection of information e.g. Customer addresses

– The dialog function can be used to guide the operator

– User managements can be activated for 3 different levels of rights, so that critical information is saved and protected e.g. calibration, setup or other values.

Check Weighing

– Alongside the weighing functions Check Weighing can be used for easy + | 0 | - control. The integrated bar graph will show a product's weight in relation to pre-defined limits in yellow, green and red colours for easy readability.

– Setpoints, as well as min and max values can be saved and indicated

– Preset tare values can be saved and used

– A database can be used to store product names and other variables

– A dialog function can be used to effortlessly guide the operator
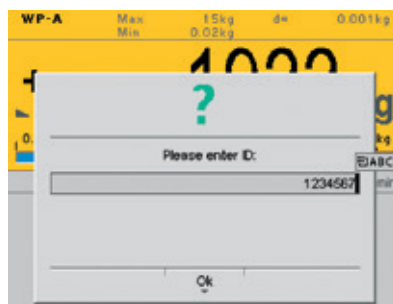
Remote Terminal

The Maxxis 5 can be used as either an efficient remote terminal or as a remote-controlled operation-dialog via a color display and a keypad. This means that messages can be displayed from a higher-level system, operation dialogs can be conducted, and texts or values can be edited.

– The Controller provides the perfect combination between a high precision instrument and a SCADA system

– A graphical display, supported by application specific function keys and an alphanumeric keypad allow transmitted commands to be clearly indicated. On the controller messages can be shown and all values can be edited and retransmitted to the host

– A database for defined texts relating to the terminal function is also included

A complete range of potential applications

Standalone Checkweighing
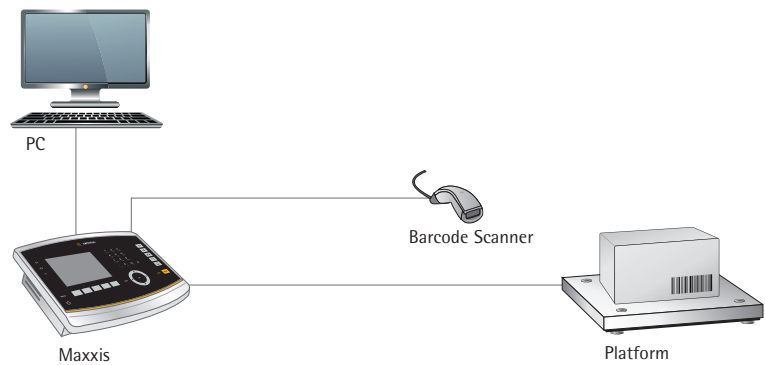With a Maxxis 5 connected to a weighing platform (digital or analogue).

A ticket will be generated and control lamps will show if the product weight is within pre-defined tolerances.

Control lamps

Maxxis

500 g

Platform

Printer
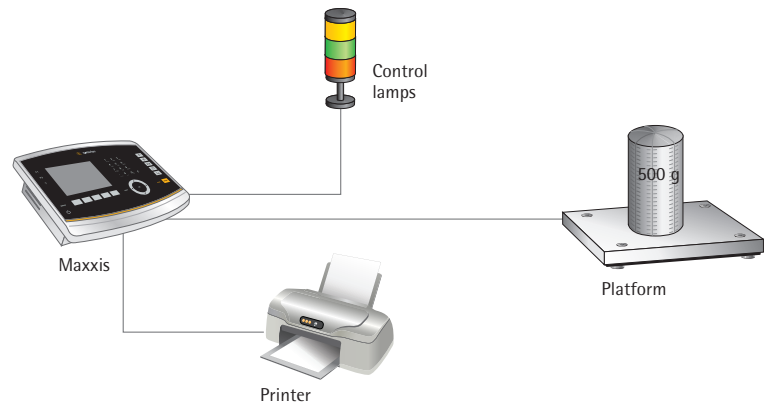
Weighing with a PC interface
With a Maxxis 5 connected to a weighing platform (digital or analogue).

A barcode scanner is connected to allow the quick input of additional information. A PC System will then take over the Data control by using the remote Terminal Function of the Maxxis 5 BASIC software. The PC system can send user tasks to the display instantaneously.

PC

Barcode Scanner

Maxxis

Platform

Weighing at multiple Weigh Points
With a Maxxis 5 connected to 2 Silos Scales.

The weighing Information is directly transferred to a PLC System, e.g. via Profibus. The limit function will then refill the Scales if needed by using the integrated I/Os. These Outputs can also be set directly from the PLC.

PLC

2

1

Maxxis

Silo Scale
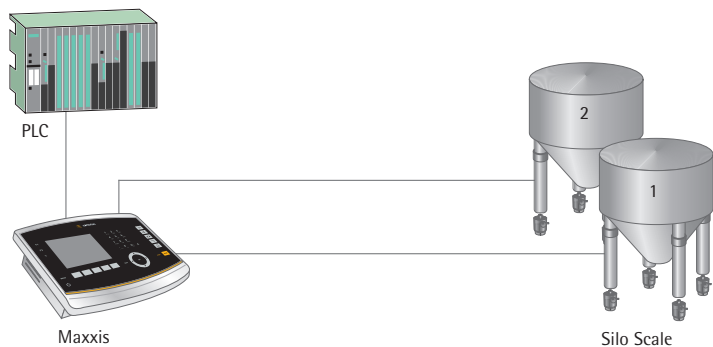
Technical Data

Housing
For Panel Mounting
IP protection class: IP20
Front panel: IP65
Material: stainless steel
RoHS conform

Other possible housings:
– Stainless steel complete IP65
– Bracket housing IP 65
– Blackbox housing IP20
– For more detailed information please
  consult the order list

Dimensions
350 × 280 × 94 mm
Depth including screen clamping rail

Display and Status
TFT graphical color display
5.7'' with 320 × 240 pixels, graphic
Weight display: 7-digits, up to 3 cm
Available weight units are t, kg, g, mg,
lb and oz.
1 Status LED to signal shut-down procedure

Keys
37 keys, key pad foil

Languages│Character sets
ASCII, Latin 1
Latin Ext A
cyrillic
hiragana
katakana
CJK (simplified Chinese only)

Standard Interfaces
RS232
RS485/422
Ethernet TCP│IP, Modbus TCP
USB
4 Digital I/Os
SD Card Slot

Options
2 Analog│Digital Weighing Points
2 Option Slots
1 Fieldbus Slot
For more detailed information please
consult the order list

Digital Scales
Connection of digital SBI│XBPI Platforms
are possible.
(Power supply of one platform)
Connection to digital Pendeo Load cells
is possible
(power supply needed)
For other connectable scales please
check manual

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 650 Ohm
or 4 load cells with 350 Ohm

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

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

ATEX Zone 2/22 approved (Option)
Zone 2, IIC T4 /
Zone 22, IIIC T80°C
Ta: -10°C ... +40°C

**Approved for FM/CSA Class I Div.2
(Option)**
NI / I / 2 / ABCD / T4
Ta = -10°C to +40°C – 2015571; NIFW
ANI / I, II, III / 2 / ABCD / T4
Ta = -10°C to +40°C – 2015571; NIFW

A│D Converter Input range
4,8 nV (appr. 7.5 Mio. div.)
Usable resolution: 0.2 µV/d
Measuring signal: 0 to 36mV
(for 100% nominal load)

Linearity
< 0,003%

Control outputs
4 relay two way contact
Max. switching voltage 31 V DC│24 V AC
Max. switching current: 1 A

Control Inputs
Quantity: 4 opto-decoupled inputs
Can be used as 'passive' or 'active'

Voltage
Input (active):
Can be switched via a potential-free contact
Input (passive):
– Logic 0: 0 to 5 V DC or
– open Logic 1: 10 to 28 V DC
External power supply required

Current: <7 mA @ 24 V
         <3 mA @ 12 V

Power Supply
100 – 240 VAC, (+10/-15 %), 50 - 60 Hz max.
21 W/44 VA
Optional:
24 VDC, (+/-10 %), max 20 W

Temperature effects
Zero: TK0 m < 0.05 µV/K RTI
Span: TKspan < +/- 4 ppm/K

**Environmental conditions
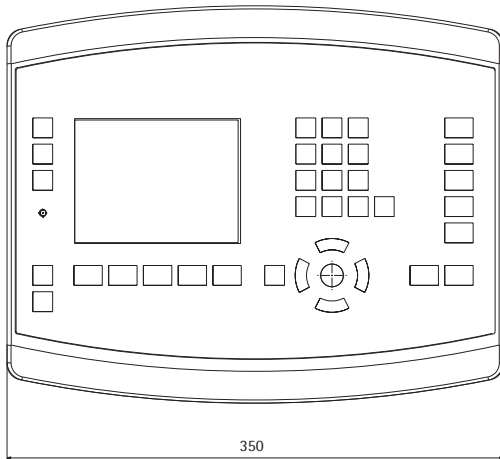Temperature**
W&M: –10 °C to +40 °C
Operation: –10 °C to +50 °C
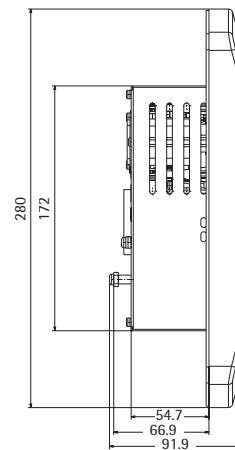Storage: –20 °C to +70 °C

Weight
Net: 3 kg
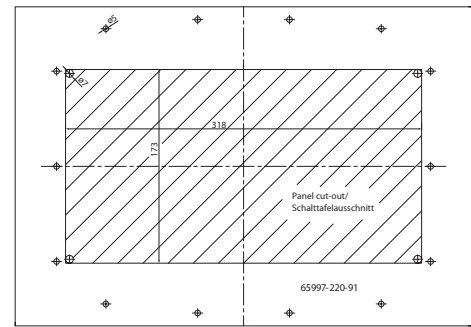Shipping weight: approx. 4 kg

Technical Drawings

Front view
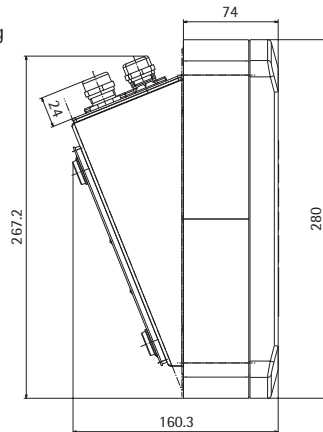

350

Side view
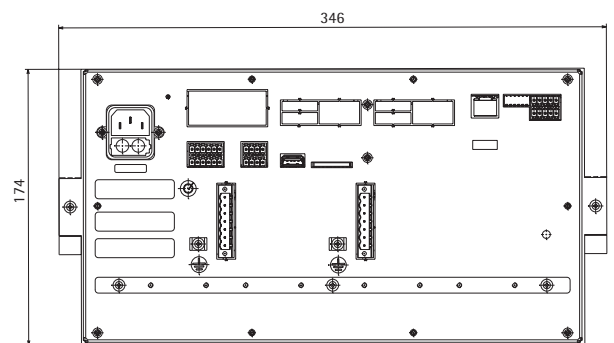

280
172
54.7
66.9
91.9

Back view

Drill plan | Panel cut out

318
173
Panel cut-out/
Schalttafelausschnitt
65997-220-91

Optional Table top housing

74
24
267.2
280
160.3
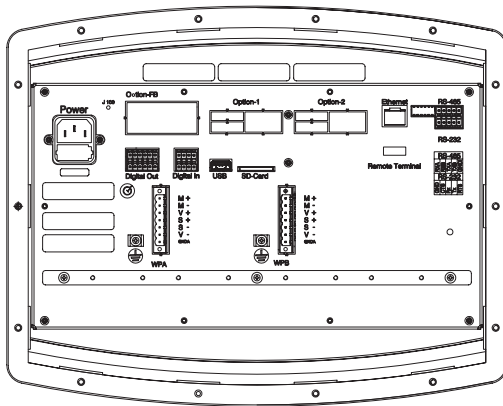
Optional Blackbox housing

346
174

Optional Table top
housing with brackets

297
201
168
33°
87
286
350
383
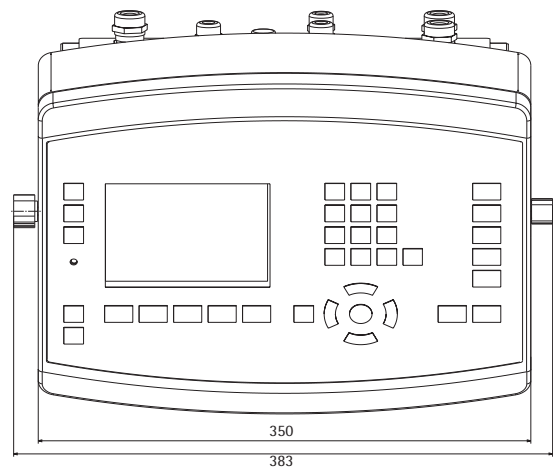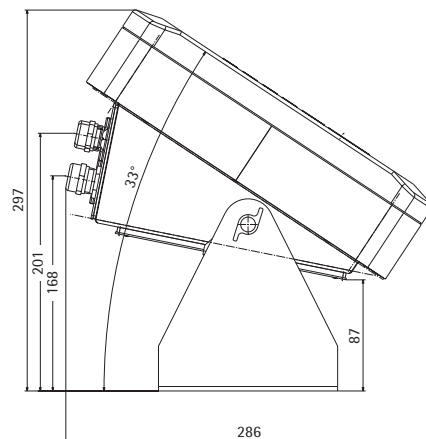
Maxxis 5 Process Controller

Type	Description	Order Number
Maxxis 5	Process Controller, incl. Ethernet TCP│IP and Modbus TCP 1× RS232 and 1× 485│422, 1× USB, 1× SD Card, 4× digital input (active or passive optional) and 4× digital outputs as relay	9405 159 00000

Options for Maxxis 5

Weighing Point		Slot A│B
W1 │ W2	A│D Converter	0│0
WE1	A│D converter with intrinsically safe Load Cell supply	0│–
X3 │ X4	Disconnectable load cell connection	0│0

Built–in Inputs

DE1	Digital Inputs – relays- passive	Standard
DE2	Digital Inputs – relays- active	

Housing

G1	Maxxis 5 with Panel Housing	Standard
G2	Maxxis 5 in Table Top Housing	
G3	Maxxis 5 in Table Top Housing with U-Bracket (turned front)	
G4	Maxxis 5 in Blackbox Housing (not available with Y2│Y3)	
L12	Housing back plate with cable glands for Table Top housing (Standard)	
L13	Housing back plate with EzEntry 4 and Cable glands for Table Top housing (not available with Y2│Y3)	

Approvals

Y2	ATEX Zone 2│22 Approval
Y3	FM Class I, Div. 2 Approval
F3	Kit for the legal for trade approval (labels and CD), NAWI according to MID

Power Supply

L0	110│240 V AC power supply	Standard
L8	24 V DC power supply	

Power Cable

EU	Power cable with Euro plug, type CEE7 (only if table top housing is ordered)	Standard
GB	Power cable with GB plug, type 360 (only if table top housing is ordered)	
US	Power cable with US plug, type LAP 31 (only if table top housing is ordered)	
N31	Power cable for 24 V with open ended cable (only if table top housing is ordered)	

Applications and Licenses

H0	BASIC Application	Standard
I4	PHASE Application (OPC included)	
I5	COUNT Application (Available 2015)	
I6	BATCHING Application	
I8	TRUCK Application (Alibi Memory included)	
I11	IBC – One Component Filling	
I12	Tilt Correction License (Software BASIC needed)	
E5	Alibi Memory License	
E6	OPC Server License (AccessIt 2.0 included)	
E9	Special License "Batch Modes" for using in individual programming	

Interface Cards   Slot 1│2│4

B15 │ B25	Interface Card Serial 2× RS485 (incl. supply for one IS Platform)	0│0│-
B16 │ B26	Interface Card Analog 1 Input │ 1 Output with 0/4-20 mA	0│0│-
B17 │ B27	Interface Card Digital 4 Outputs Relay │ 4 Inputs - active	0│0│-
B18 │ B28	Interface Card Digital 4 Outputs Relay │ 4 Inputs - passive	0│0│-
B19 │ B29	Interface Card Digital 8 Outputs Optocoupler │ 4 Inputs - passive	0│0│-
C21	Fieldbus Card Profibus DP	- │ - │ 0
C24	Fieldbus Card DeviceNet	- │ - │ 0
C25	Fieldbus Card CC-Link (Available 2015)	- │ - │ 0
C26	Fieldbus Card Profinet	- │ - │ 0
C27	Fieldbus Card Ethernet │ IP	- │ - │ 0

Cable for integrated Ethernet interface

M39	Ethernet connector female RJ45, IP66
M40	Ethernet cable with cable gland, 7 m, RJ45 connector

Cable for integrated USB interface

N29	USB connector female USB type A, IP65 if no USB plugged in (not available with Y2 │ Y3)
N30	USB Cable to connect Barcode Scanner YBR03xx

Connection to (EX) Remote Terminal

CX1	Connector for Maxxis 5 Ex-Remote Terminal for barrier free connection
C1	Connector for Maxxis 5 Remote Terminal

Cable with cable glands

	integrated RS232	integrated RS485	Slot 1 1. RS485	2. RS485	Slot 2 1. RS485	2. RS485
Serial cable with 9 pin D-Sub male connector, 6 m	M16					
Serial cable with 9 pin D-Sub female connector, 6 m	M17	M81	M77	M86	M79	M91
Serial cable with 12 pin round connector male, 6 m	M18	M74	M61	M63	M66	M68
Serial cable with 12 pin round connector female, 6 m	M19	M75	M62	M64	M67	M69

Maxxis 5 – order numbers with fixed defined configuration, cannot be changed with additional options

Type	Description	Order number
PR 5900/00	Maxxis 5 Process Controller with options: Panel housing (G1), A │ D converter(W1), 110 │ 230 V (L0), BASIC Application (H0), Digital Input passive (DE1)	9405 159 00001
PR 5900/01	Maxxis 5 Process Controller with options: Panel housing (G1), A │ D converter(W1), 24 V (L8), BASIC Application (H0), Digital Input passive (DE1)	9405 159 00011
PR 5900/02	Maxxis 5 Process Controller with options: Table top housing (G2), Rear plate cable glands (L12), A │ D converter (W1), 110 │ 230 V (L0), BASIC Application (H0), Digital Input passive (DE1), Power cable with Euro Plug (EU)	9405 159 00021
PR 5900/03	Maxxis 5 Process Controller with options: Housing with bracket (G3), Rear plate cable glands (L12), A │ D converter(W1), 110 │ 230 V (L0), BASIC Application (H0), Digital Input passive (DE1), Power cable with Euro Plug (EU)	9405 159 00031

Accessories for Maxxis 5

Type	Description	Order Number
PR5900/10	A │ D Converter	9405 359 00101
PR5900/04	Interface Card Serial 2 × RS485 (incl. supply for IS platform)	9405 359 00041
PR5900/12	Interface Card Digital 4 × Input │ 4 × Output (active)	9405 359 00121
PR5900/13	Interface Card Digital 4 × Input │ 4 × Output (passive)	9405 359 00131
PR5900/17	Interface Card Digital 8 Outputs Optocoupler │ 4 Inputs (passive)	9405 359 00171
PR5900/07	Interface Card Analog 1 × Input │ 1 × Output 0 │ 4 – 20 mA	9405 359 00071
PR1721/51	Interface Card Profibus DP	9405 317 21511
PR1721/54	Interface Card DeviceNet	9405 317 21541
PR1721/55	Interface Card CC-Link (Available 2014)	9405 317 21551
PR1721/56	Interface Card Profinet	9405 317 21561
PR1721/57	Interface Card Ethernet │ IP	9405 317 21571
PR5900/41	Serial Cable with cable glands (9 pin D-Sub plug male)	9405 359 00411
PR5900/42	Serial Cable with cable glands (9 pin D-Sub plug female)	9405 359 00421
PR5900/43	Serial Cable with cable glands (12 pin round plug male)	9405 359 00431
PR5900/44	Serial Cable with cable glands (12 pin round plug female)	9405 359 00441
PR5230/30	Ethernet female connector RJ45, IP65	9405 352 30301
PR5230/31	Ethernet cable with cable glands, 7M, RJ45 plug, industrial material	9405 352 30311
PR5900/82	COUNT Application License	9405 359 00821
PR5900/81	PHASE Application License	9405 359 00811
PR5900/83	BATCHING Application License	9405 359 00831
PR5900/84	TRUCK Application License	9405 359 00841
PR5900/86	IBC – One Component Filling License	9405 359 00861
PR5900/87	TiIlt Correction License (Software BASIC)	9405 359 00871
PR5900/91	Alibi Memory License	9405 359 00911
PR5900/92	OPC Server License (AccessIt 2.0 included)	9405 359 00921
PR5900/93	Special License "Batch Modes" for Programming	9405 359 00931
PR5999/99	W&M Approval Labels (1 set)	9405 359 99991

Ex Remote Terminal (option CX1 required) for use in ATEX (IECEx) Zone 1and 21

PR5900/60	EX Remote Terminal for Maxxis 5, panel housing (YPSC* Power Supply needed)	9405 359 00601
PR5900/70	EX Remote Terminal for Maxxis 5, table top housing (YPSC* Power Supply needed)	9405 359 00701

Remote Terminal (option CX1 required)
for use in safe area (Available March 2015)

PR5900/61	Remote Terminal for Maxxis 5, panel housing (24 V power supply needed)	9405 359 00611
PR5900/71	Remote Terminal for Maxxis 5, table top housing (24 V power supply needed)	9405 359 00711

The technical data listed are intended to give a product description only
and should not be interpreted as guaranteed properties in the legal sense.