



## Maxxis 5 Process Controller with IBC Application



- Process Controller for the automated control of Weighing Processes with up to four scales
- A 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
- IBC Application for direct control of automatic charge and discharge processes for IBCs (Intermediate Bulk Containers)
- 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 | O



Maxxis 5 is the new buzzword in the world of weighing equipment. Combining accuracy, connectivity and functionality it can be easily integrated into all modern automation concepts. This connectivity is a direct result of Maxxis 5's wide range of interface options and the possibility for individual programming.

The wide surface area of the front panel and the bright display, allow the operator interface to be laid out in the most beneficial method for users. The Maxxis 5 features extensive technological updates, including an integrated 7 digit weight display supported by unit and status symbols. This facilitates easy reading, even in the harshest conditions.

As a multiple use device, Maxxis comes tailored to meet your industrial environment's specific needs. With the possibility for free programming, it is the flexible instrument to effortlessly increase efficiency in your process.

The Controller is equipped with an internal web server, so any operation with the instrument also can be done via a standard web browser, or any other remote display that supports VNC. An Ethernet port as well as a USB connection is installed prior to delivery.

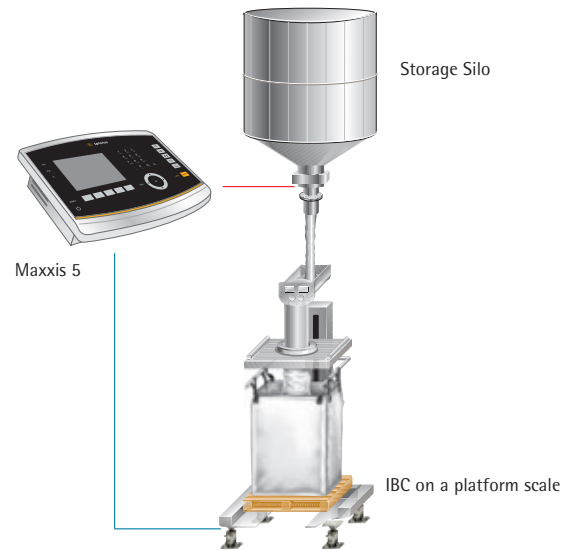
Maxxis 5 has been designed to support users like no other controller before it: Help functions guide users through the extensive range of functions, whilst automatic back-ups are saved to an SD Card making the whole process transparent. Software updates can be installed in minutes via Ethernet or USB Stick. On top of this, regular individual reports designed for your needs, and service reports that track both overload and user changes are delivered straight to operators. A resilient stainless steel housing ensures that Maxxis 5 not only looks great but, more importantly is highly resistant to even the most rigorous cleaning regimes. The controller can be supplied in one of three different integration constructions including a direct-at-machine front-end unit or mounted directly into a panel.

The Maxxis 5 with the IBC Application is perfectly equipped to take control of any process requiring the automatic charge or discharge of intermediate Bulk containers (IBCs). Maxxis 5 is supplied pre-programmed and can control the charging of powders or granulated products into receptacles such as big bags or tote bins. Standard functions speed up the installation time and guarantee failure free and reproducible results.

- automatic batch procedures, controlled by powerful batch algorithms
- flexible process definitions allow adjustments to the individual needs
- Integrated direct control of valves and feeders
- User friendly container database with integrated tare database
- Direct start with set point entry or via container selection
- Integrated material and consumption reports

### Direct charge of IBCs placed on a scale

The process is started through the inputting of set points or by making a selection from an internal database. The Maxxis 5 can then be given total control of the charge operation using IBCs on scales, or suspended from weigh frames. By inputting different tare values for a range of IBCs, containers that are not full can be "topped up" or charged to the original set point if required. An integrated material flow control, ensures that the desired amount of material is supplied to each IBC during the charge process. If at any point during the process the flow drops below the desired rate, an alarm will be raised in conjunction with the initiation of any installed flow aids.

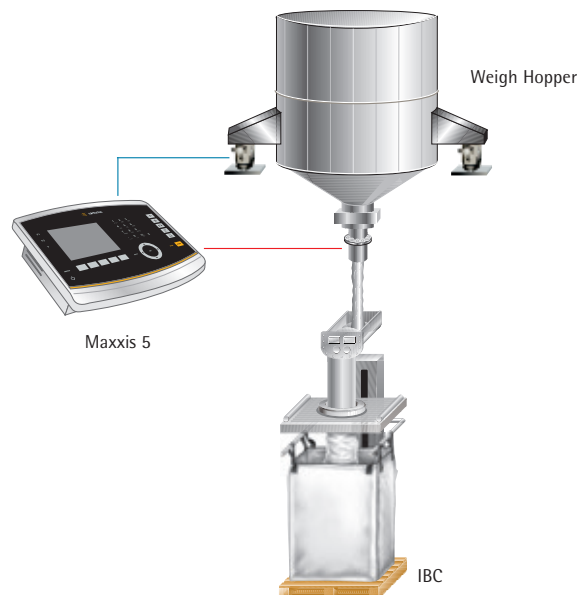


### Direct discharge from a storage weigh hopper into IBCs

For processes where a weigh hopper is directly feeding IBCs, the Maxxis 5 will control valves and feeders as well as controlling the refill or emptying of the hopper. Using set points or the Internal IBC memory the process can be accurately moderated.

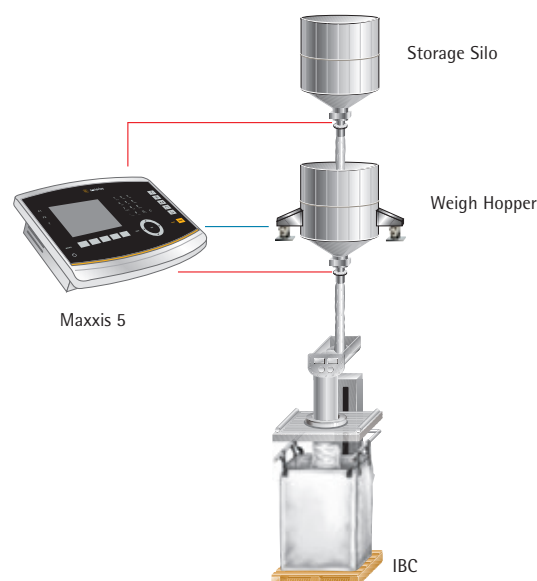
Maxxis 5 allows different sequences of charge processes to be efficiently utilized. The controller will check at the beginning of each process that sufficient material is in the hopper and will prevent charging if the weight values are incorrect.

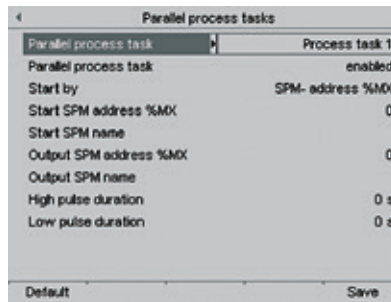
The storage hopper can be topped up both manually or automatically. The controller will then perform continuous checks to ensure the refill process is complete before beginning or accepting refill commands. For maintenance or product change requirements, the entire contents of a hopper can be emptied.



### Charging of IBCs using a dedicated weigh hopper

Maxxis 5 can be installed as the controller for the complete charge operation. Taking control of a weigh hopper, and using predetermined set points the desired quantity of material can be discharged into a waiting IBC. This process can be carried out with full automatization or via operator action. In this highly efficient process layout, Maxxis 5 can be given set points or an IBC can be selected from the extensive internal memory. The PLC will control not just valves and feeders, but will also identify when an IBC is correctly positioned too. Utilizing a dedicated weigh hopper in conjunction with Maxxis provides maximum efficiency. This is because an IBC can be changed during an active batch for continuous high performance operation.

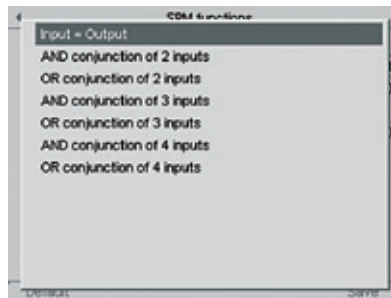




### Process definition

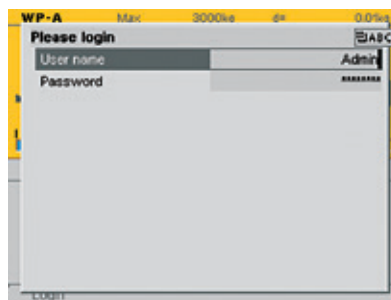
The dosing process can also control other functions, such as: a suction, a pressure control or initiate the dosing only when a container is in position. Parallel processes, such as starting samplers or discharge equipment can also be integrated.

Predefined dosing modes, this ensures accuracy and repeatability. Here you can choose between different processes: "coarse | fine" or "coarse | medium | fine" cut-offs or control via analog output.



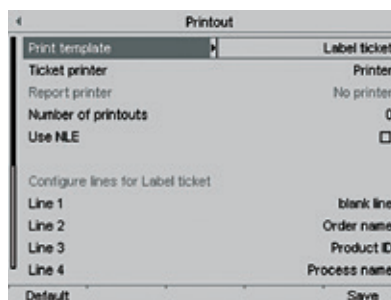
### PLC Functions

The Maxxis 5 has an advanced control function. Required control signals can be linked according to functions with each other, well-known functions such as AND | OR | NOT | ... can be used here. Name mappings simplify the handling of these functions and signal management.



### Operator management

All your data and configurations are securely protected against any unauthorised changes thanks to the secure structure of Maxxis 5. Through the assignation of user access rights (User IDs and PINs), users will only have access to the facilities they need most.



### Printouts

Preconfigured printouts come as standard when you purchase a Maxxis 5 with the IBC application. These printouts can be adapted to suit your individual needs and operating sequences at any time. Maxxis 5 is supported by the Sartorius Nice Label Express Program which allows users to modify the type face and add additional bar graphs and even graphics to their print outs.

## 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

4<sup>th</sup> 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

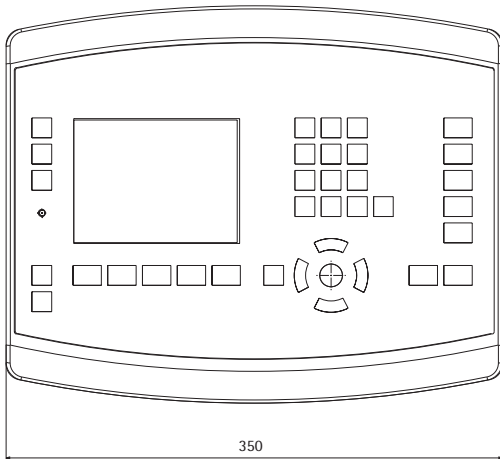
W&M: -10 °C to +40 °C  
Operation: -10 °C to +50 °C  
Storage: -20 °C to +70 °C

### Weight

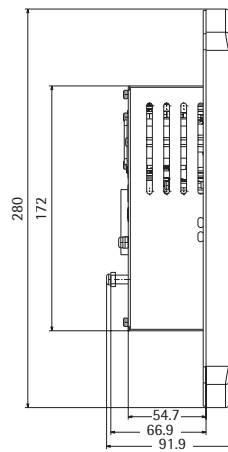
Net: 3 kg  
Shipping weight: approx. 4 kg

# Technical Drawings

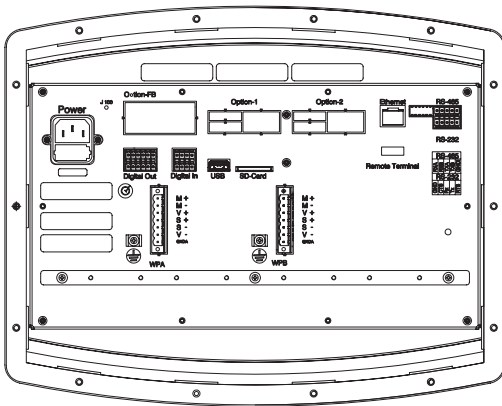
Front view



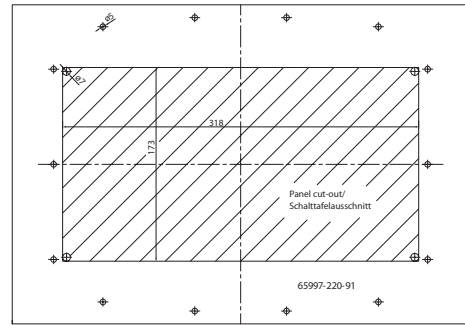
Side view



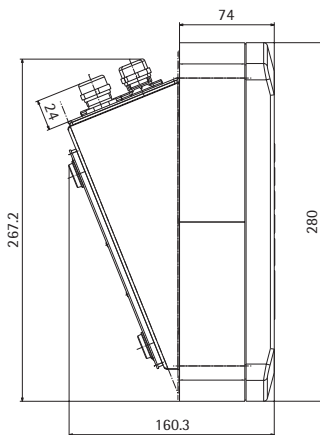
Back view



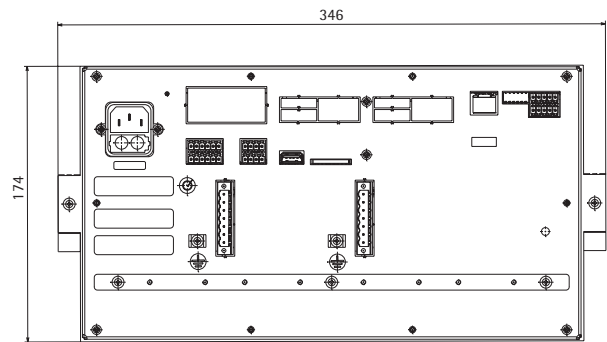
Drill plan | Panel cut out



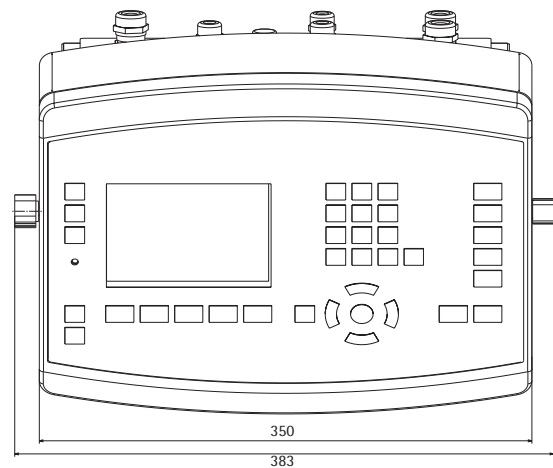
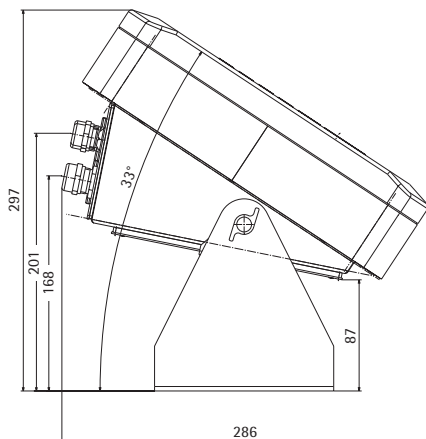
Optional Table top housing



Optional Blackbox housing



Optional Table top housing with brackets



## 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	

<b>Interface Cards</b>		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**

	<b>integrated RS232</b>	<b>integrated RS485</b>	<b>Slot 1 1. RS485</b>	<b>2. RS485</b>	<b>Slot 2 1. RS485</b>	<b>2. RS485</b>
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**

<b>Type</b>	<b>Description</b>	<b>Order number</b>
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 2015)	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 (Available 2015)	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	Tilt 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 1 and 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.

Technische Änderungen vorbehalten.  
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