

Weight controller Maxxis 5

For maximum weighing process control



German Quality

The innovative weight controller Maxxis 5 is suitable for the most diverse of applications – from multi-component dosing to one-component filling and counting right up to vehicle weighing. Versatile interface options make it compatible with almost any weighing solution – either programmed individually or supported by customised software applications.

The right solution for all of these applications:



Weighing



Filling and dosing



Formulation



Fill quantity control

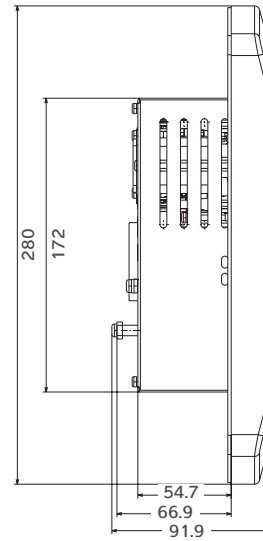
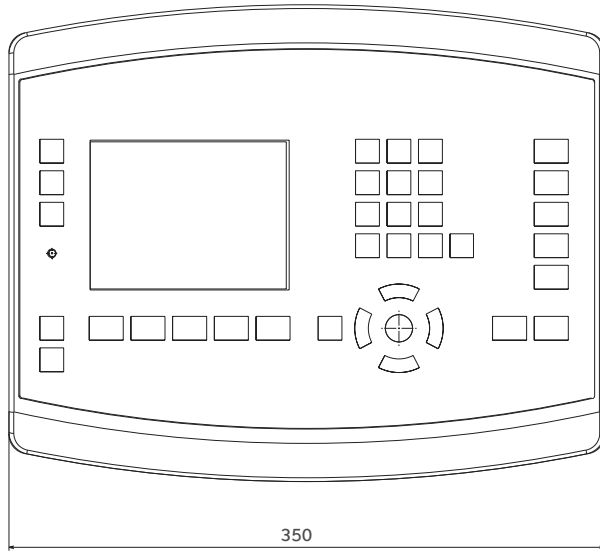
Technical specifications

Weight controller Maxxis 5	
Parameter	Description
Housing	<p>Type Optional: housing for cabinet assembly, table-top housing, housing with bracket for wall mounting, blackbox</p> <p>IP protection class</p> <ul style="list-style-type: none"> - Cabinet housing: IP65, rear panel IP 20 - Blackbox housing: IP20 - Table-top housing: IP65 - Wall housing: IP65 <p>Material Stainless steel</p>
Power supply	100–240 V _{AC} , ±10%, 50–60 Hz 24 V _{DC} , +20/-10%
Power consumption	Max. 20 W
Display	<ul style="list-style-type: none"> - TFT colour graphic display - 5.7" (4:3) at 320 × 240 pixels - 7-digit weight display - The possible units of weight are t, kg, g, mg, lb and oz. - One status LED shows the 'shutdown' status.
Keys	Membrane keypad, 36 keys
Languages	<p>Integrated languages German, English, French</p> <p>Character sets ASCII, Latin 1, Latin-ext A, Cyrillic, Hiragana, Katakana, CJK (simplified Chinese only)</p>
Standard interfaces	
USB interface	<p>Version: USB 1.1, type B, max. 300 mA</p> <p>Function: printer, bar code reader (HID), key, storage medium</p>
SD card	Function: operating data, backup
RS-232	<p>Version: terminal, 5-pin</p> <p>Protocol: printer, SBI, xBPI, remote display, MT-SICS level 0</p>
RS-485	<p>Version: terminal, 5-pin</p> <p>Protocol: EW-COM, Modbus RTU, remote display, xBPI, SBI, Pendeo®</p>
Ethernet TCP/IP	<p>Version: RJ-45 connector</p> <p>Protocol: TCP/IP and Modbus TCP</p> <p>Function: web server, network printer, network drive</p>
Digital I/O	<p>Control inputs</p> <p>Quantity: 4, optocoupler isolated, passive or active, max. 28 V_{DC}</p> <p>Version: 2 × terminal, 4-pin</p> <p>Function: zero, tare, etc.</p> <p>Control outputs</p> <p>Quantity: 4, relay isolated, max. 30 V_{DC}/24 V_{AC}, max. 1 A</p> <p>Version: 2 × terminal, 6-pin</p> <p>Function: limits, status, weight, rough/fine, etc.</p>
Optional interfaces – A/D converter (PR 5900/10)	
Load cell connection	All strain gauge load cells; 6 or 4-wire connection is possible
Load cell supply	12 V _{DC} (±6 V _{DC}), short-circuit proof, external load cell supply possible
Load impedance	<ul style="list-style-type: none"> - min. 75 Ω - e.g. eight load cells each with 650 Ω or four load cells each with 350 Ω
Measuring principle	<p>Measuring amplifier: Delta-Sigma converter</p> <p>Measurement time: min. 5 ms – max. 1600 ms</p>
Sensitivity	<p>Internal: 7.5 nV (~4.8 million parts)</p> <p>Usable resolution: - 0.2 µV/d - 0.8 µV/e for 6000 e pursuant to OIML R76</p>
Input signal	0 to 36 mV (for 100% maximum capacity)
Linearity	< 0.003%
Temperature effect	<p>Zero point: TK_{0m} < 0.05 µV/K R_{T1}</p> <p>Measuring range TK_{span} < ±4 ppm/K</p>
Digital filter for load cell connection	4th order (low pass), Bessel, aperiodic or Butterworth

Parameter	Description
Optional interfaces – intrinsically safe A/D converter (option WE1)	
Load cell connection	Scales or load cells in ATEX zone 1/21, 6- or 4-wire connection possible
Load cell supply	Optional: – 7.2 V _{DC} (±3.6 V _{DC}) for total resistance (R _{LC}) > 80 ≤ 150 Ω – 12 V _{DC} (±6 V _{DC}) for total resistance (R _{LC}) > 150 Ω
Load impedance	– min. 80 Ω – e.g. eight load cells each with 650 Ω or four load cells each with 350 Ω
Measuring principle	Measuring amplifier: Delta-Sigma converter Measurement time: min. 5 ms – max. 1600 ms
Sensitivity	Internal: 7.5 nV (~ 4.8 million parts) @ 3 mV/V Usable resolution: – 0.2 µV/d – 0.8 µV/e for 10,000 e pursuant to OIML R76
Input signal	0 to 36 mV (for 100% maximum capacity)
Linearity	< 0.003%
Temperature effect	Zero point: TK _{0,m} < 0.05 µV/K R _{T1} Measuring range: TK _{span} < ±4 ppm/K
Digital filter for load cell connection	4th order (low pass), Bessel, aperiodic or Butterworth
Other optional interfaces	
2 × RS-485 (PR 5900/04)	Version: 2 × terminal, 7-pin, incl. power supply for an IS platform scale Protocol: EW-COM, Modbus RTU, remote display, xBPI, SBI, Pendeo®
2 × RS-232 (PR 5900/32)	Version: 2 × terminal, 7-pin Protocol: printer, SBI, xBPI, remote display, MT-SICS level 0
1 × analogue I/O (PR 5900/07)	Version: 2 × terminal, 6-pin Function: gross weight, net weight, process value
Digital I/O passive (PR 5900/12)	Control inputs Quantity: 4, optocoupler isolated, passive, max. 28 V _{DC} Version: 2 × terminal, 4-pin Function: zero, tare, etc. Control outputs Quantity: 4, relay isolated, max. 30 V _{DC} /24 V _{AC} , max. 1 A Version: 2 × terminal, 6-pin Function: limits, status, weight, rough/fine, etc.
Digital I/O active (PR 5900/13)	Control inputs Quantity: 4, optocoupler separated, active, switchable via isolated contact Version: 2 × terminal, 4-pin Function: zero, tare, etc. Control outputs Quantity: 4, relay isolated, max. 30 V _{DC} /24 V _{AC} , max. 1 A Version: 2 × terminal, 6-pin Function: limits, status, weight, rough/fine, etc.
Digital I/O passive (PR 5900/17)	Control inputs Quantity: 6, optocoupler isolated, passive, max. 28 V _{DC} Version: 2 × terminal, 4-pin Function: zero, tare, etc. Control outputs Quantity: 8, optocoupler isolated, passive, max. 24 V _{DC} , 25 mA Version: 2 × terminal, 6-pin Function: limits, status, weight, rough/fine, etc.
Profibus-DP (PR 1721/61)	Profibus-DP in accordance with EC 61158, 12 MBit/s, 9-pin Sub D connector
DeviceNet (PR 1721/64)	DeviceNet-Slave, max. 500 kBit/s, 5-pin terminal
Profinet I/O (PR 1721/66, ../76)	ProfiNet I/O, 10 and 100 MBit/s, 2 × RJ-45 connection
Ethernet IP (PR 1721/67, ../77)	EtherNet-IP, 10 and 100 MBit/s, 2 × RJ-45 connection
Ambient temperature range	Operation: -10 ... +50°C Storage: -20 ... +70°C
Packaging dimensions	450 × 410 × 240 mm
Weight	Cabinet and blackbox housing: Net: 3 kg Gross: 4 kg Table-top and wall housing: Net: 5.7 kg Gross: 6.7 kg
Certificates	CE, OIML R76, OIML R51, ATEX zone 2/22, ATEX zone 1/21, FM class I, II, III div. 2, IECEx, TRCU 004

Technical diagrams

Weight controller Maxxis 5



Cabinet housing

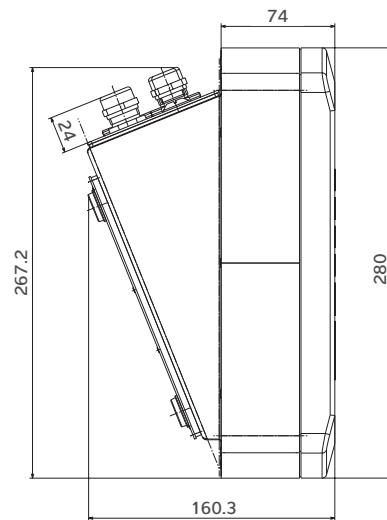
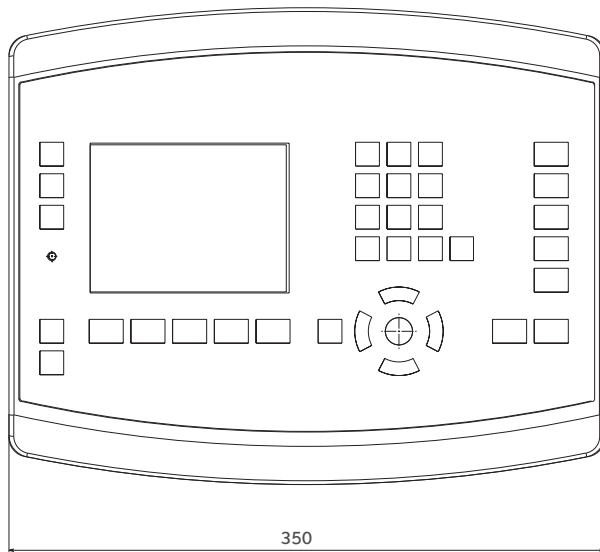
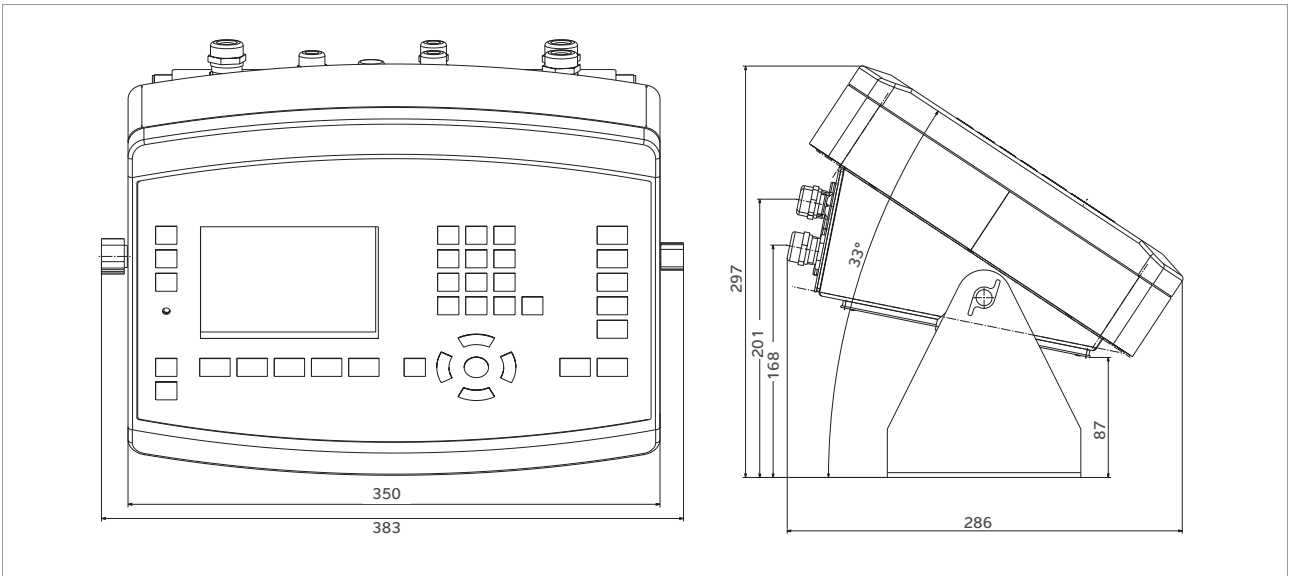
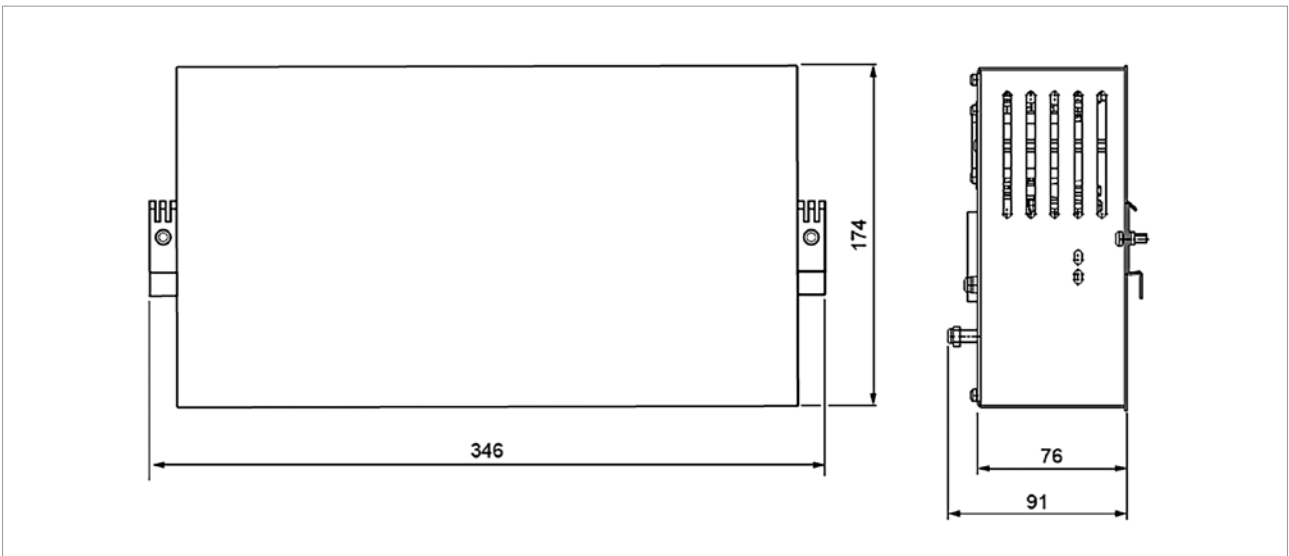


Table-top housing



Wall housing

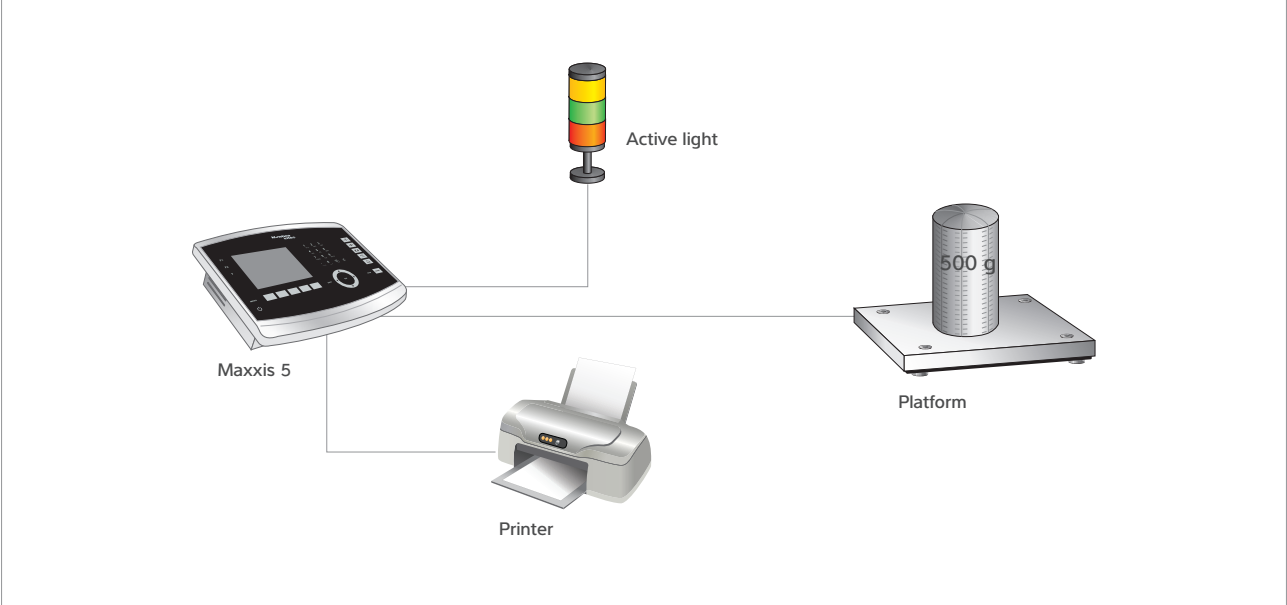


Blackbox housing

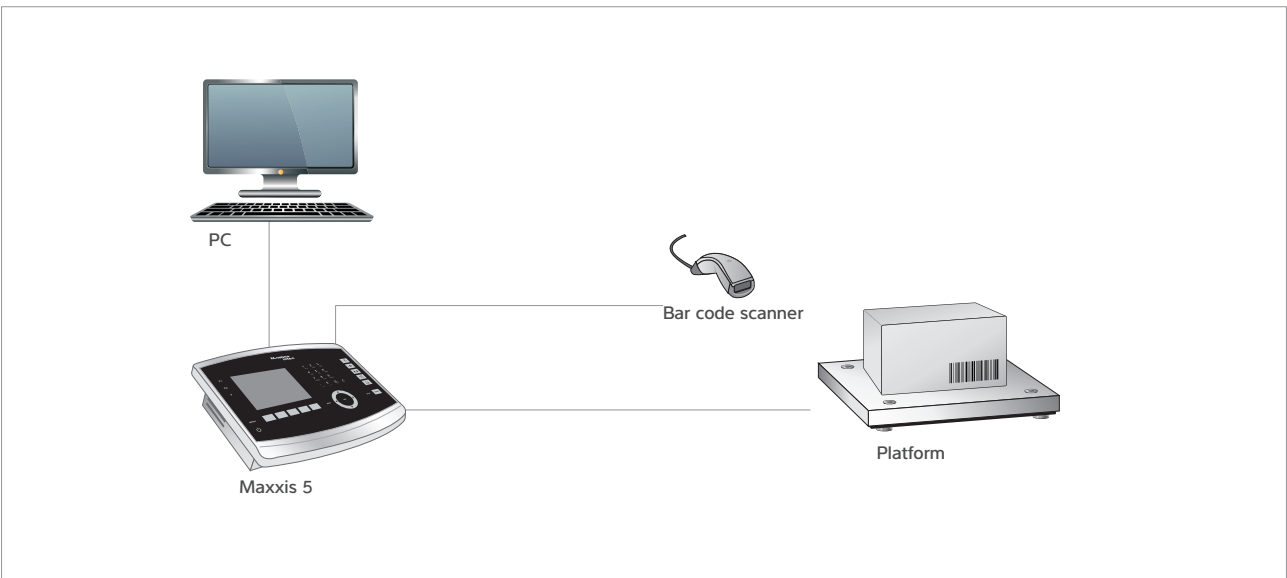
All dimensions in mm

Application software

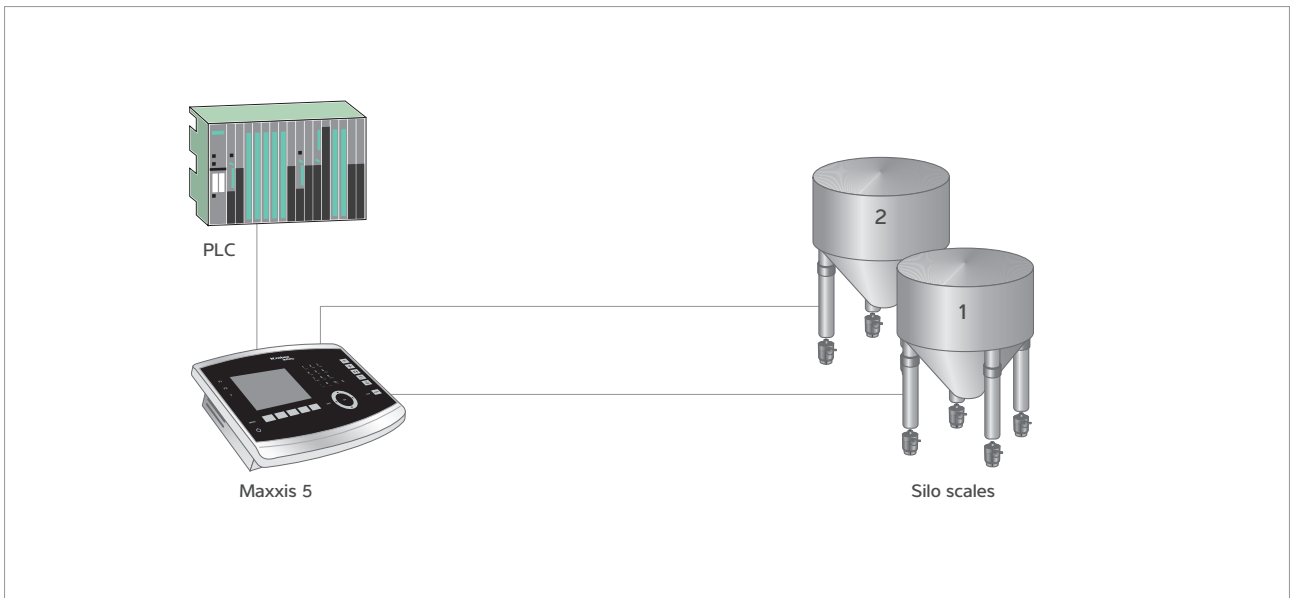
BASIC



Easy checkweighing



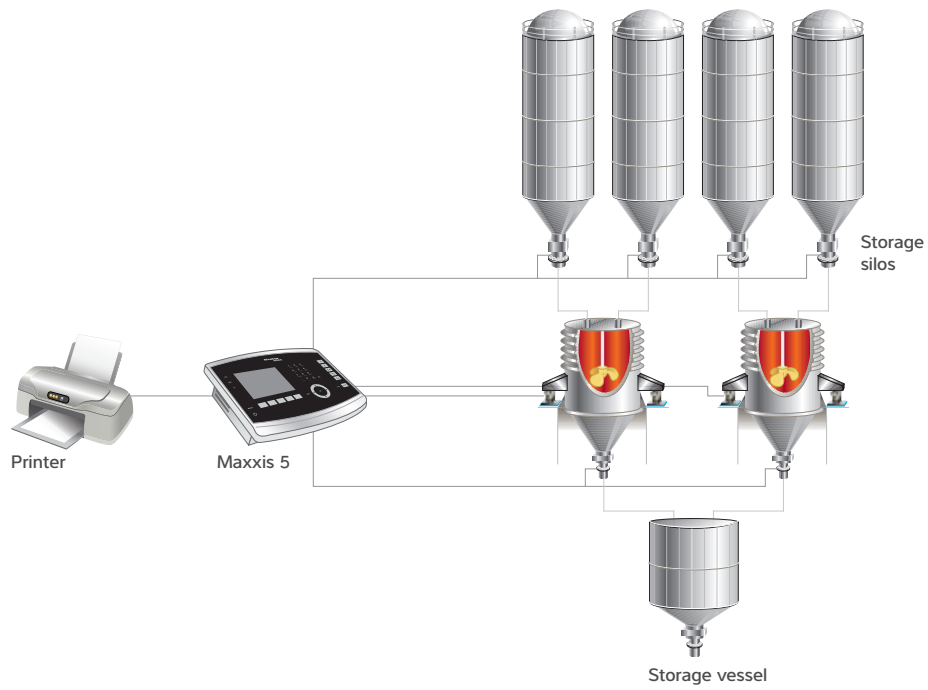
Weighing with PC interface



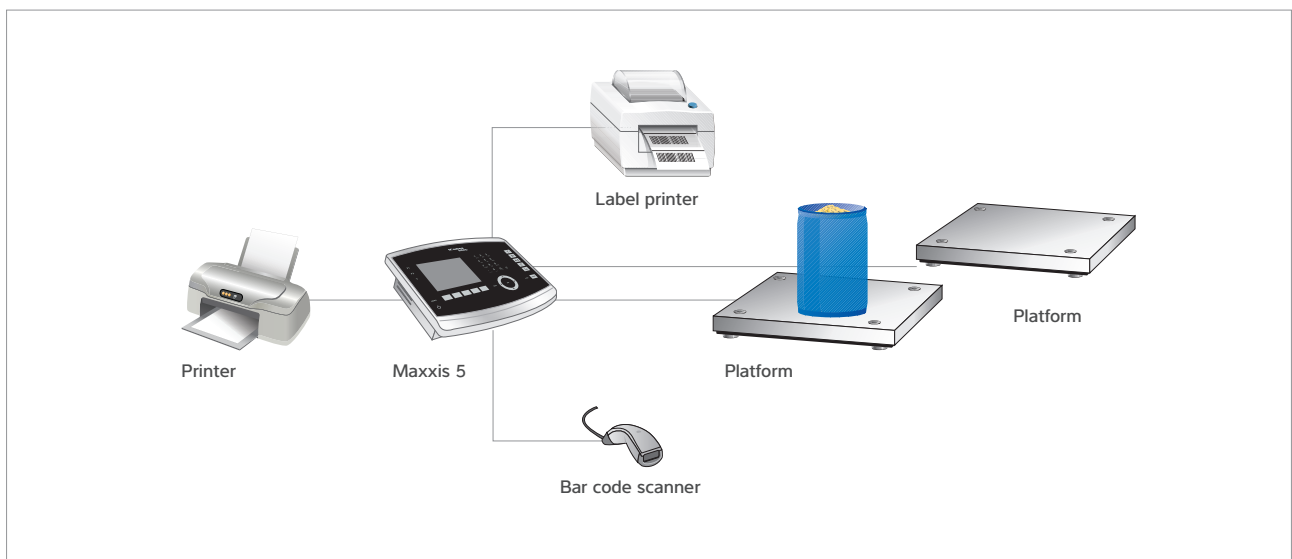
Weighing with multiple weighing points

Standard application BASIC – functions	
Weighing	<ul style="list-style-type: none"> – Gross, net, tare – Printing, Alibi memory, dialogue
Checkweighing	<ul style="list-style-type: none"> – Easy +/- functions – Easy product databases – Check with preset tare/tare or gross mode
Terminal function	<ul style="list-style-type: none"> – Connection to superordinate systems (PLC, PC etc.) – Display of texts and dialogues – Operation of PC or PLC application via weight controller

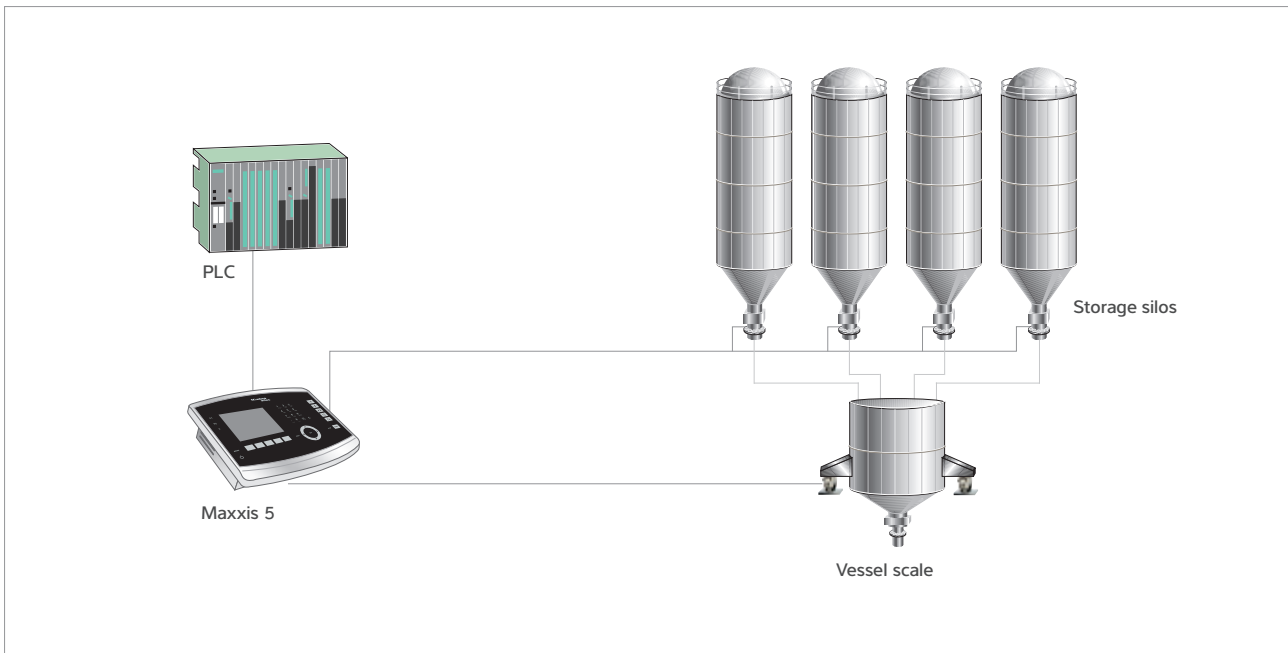
BATCH



Automatic multi-component dosing



Manual formulation

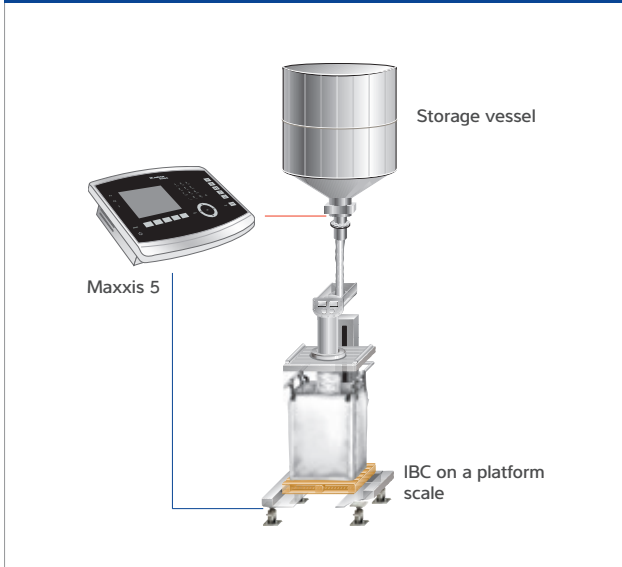


Dosing with field bus

Standard application BATCH – functions

Independent dosing device

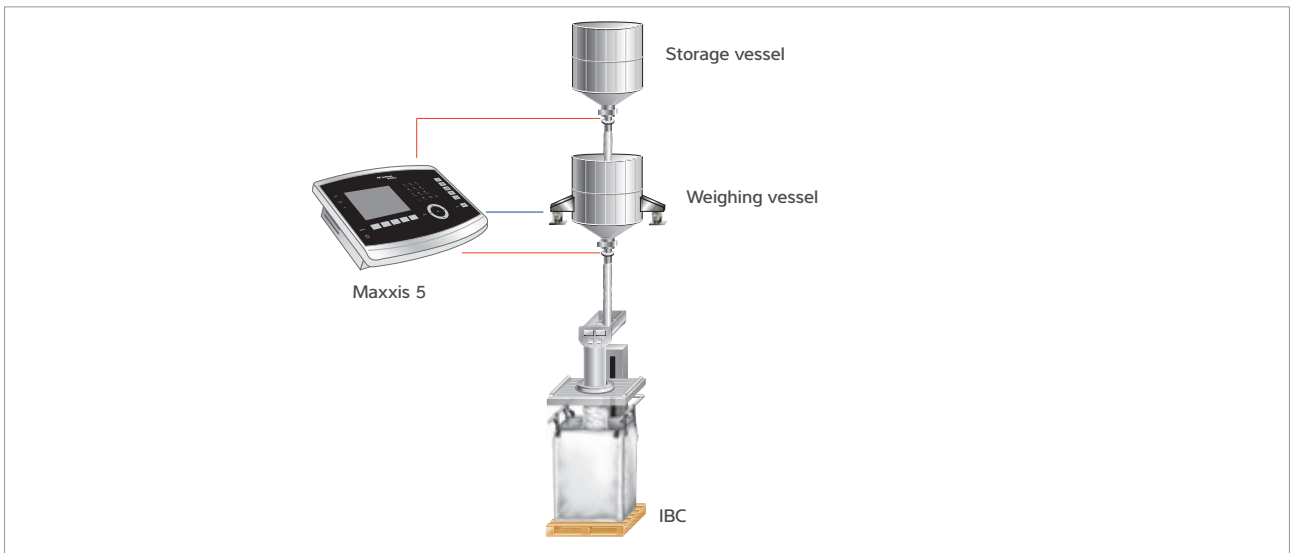
- Formulation-based multi-component dosing control
- Control of up to four scales (2 × analogue + 2 × digital)
- Manual and/or automatic multi-component dosing according to setpoint setting
- Integrated PLC for the control of analogue and digital inputs and outputs
- Comprehensive reporting for seamless documentation of the dosing results and traceability
- Remote control via field bus, OPC or Modbus TCP (incl. selection of formulation, setpoint setting, start, stop, etc.)
- Configuration of the process flow with formulation components, formulations and orders
- Different types of material for control of additional stages in the process such as stirring and heating using digital inputs and outputs
- Adjustable dosing tolerance and overrun, and values for rough and fine signals
- Incl. automatic readjustment of overrun and setpoint recalculation



One-component filling



One-component discharge dosing



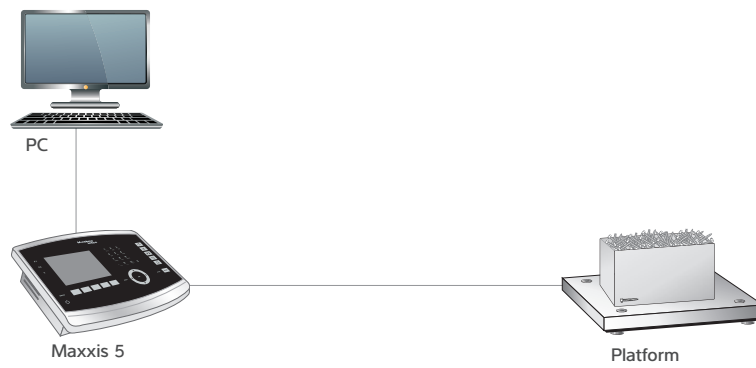
One-component filling with storage vessel

Standard application IBC – functions

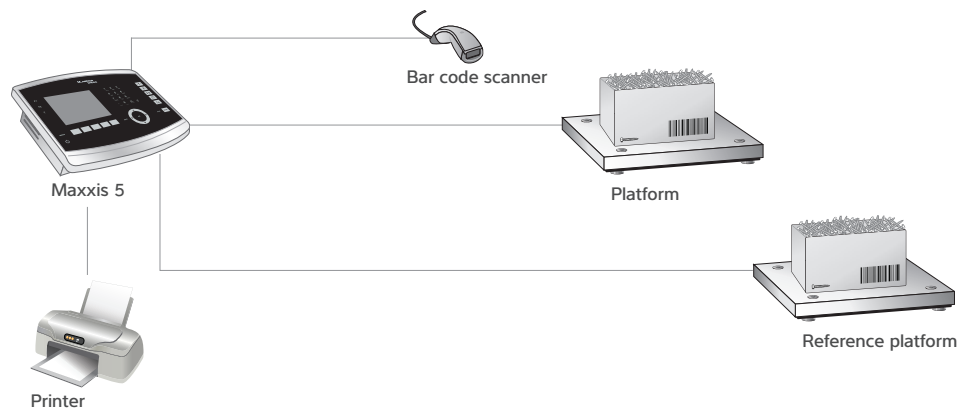
Independent dosing device

- Formulation and process-based dosing control
- Control of a scale
- Manual and/or automatic one and multi-component dosing according to setpoint setting
- Integrated PLC for the control of analogue and digital inputs and outputs
- Comprehensive reporting for seamless documentation of the dosing results and traceability
- Up to three parallel processes that can be defined for automatic sampling, for example
- Configuration of the process flow with process components, processes, orders, products, vessels
- Different types of material for control of additional stages in the process such as stirring and heating using digital inputs and outputs
- Adjustable dosing tolerance and overrun, and values for rough and fine signals
- Incl. automatic readjustment of overrun and setpoint recalculation

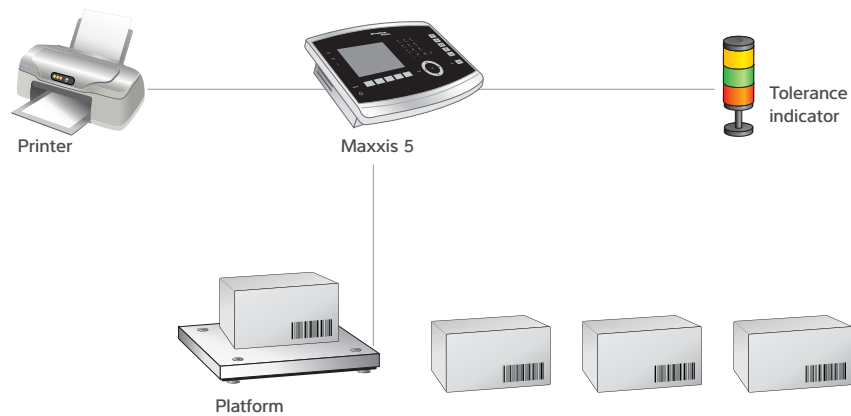
COUNT



Counting with a scale



Counting with reference scale



Checkweighing

Standard application COUNT – functions

Counting	<ul style="list-style-type: none"> – Input of reference unit weight – Automatic unit weight optimisation – Adjustable accuracy of the unit weight calculation – Automatic tare – Product data memory – Counting with multiple scales (reference weight scale)
Checking/totalling	<ul style="list-style-type: none"> – Input of the target weight and tolerances – Support by bar graph – Product data memory – Automatic result printout – Totalling of each product – Automatic or manual value acceptance

TRUCK



Standard application TRUCK – functions

Truck scale	<ul style="list-style-type: none"> – Initial weighing and second weighing – Database for vehicles, products, customers, carriers – Loading function with target value, tolerance and overrun correction – Printout of the weighing ticket – Saving of the recorded gross value in the Alibi memory (licence required) – Tandem scale possible
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Ordering information

Weight controller Maxxis 5

Type	Description	Order number
Maxxis 5	Weight controller including Ethernet TCP/IP, RS232/485/422, USB, SD card, digital 4 × in-/4 × outputs	9405 159 00000

Options for weight controller Maxxis 5

Type	Description	WP slot A/B
A/D converter		WP slot A/B
W1	A/D converter for WP slot A	A/-
W2	A/D converter for WP slot B	-/B
WE1-S12	A/D converter for intrinsically safe connection of strain gauge load cells in ATEX zone 1/21 (12 V supply voltage for scales with a total resistance > 150 Ohm)	A/-
WE1-S7	A/D converter for intrinsically safe connection of strain gauge load cells in ATEX zone 1/21 (7.2 V supply voltage for scales with a total resistance > 80 ≤ 150 Ohm)	A/-
X3	Removable load cell connection for A/D converter in WP slot A	A/-
X4	Removable load cell connection for A/D converter in WP slot B	-/B

Type	Description	
Digital inputs		
DE1	4 × digital inputs, passive (24 V supply required)	Standard
DE2	4 × digital inputs, active (internal 12 V supply)	

Type	Description	
Supply voltage		
L0	110/230 V _{AC} supply voltage	Standard
L8	24 V _{DC} supply voltage	

Type	Description	
Housing version		
G1	Maxxis 5 with housing for cabinet assembly	Standard
G2	Maxxis 5 in the table-top housing	
G3	Maxxis 5 in the housing with bracket for wall mounting (rotated front plate)	
G4	Maxxis 5 in the blackbox housing (no Y2/Y3)	

Type	Description	
Back panel		
L12	Back panel with fittings (only in conjunction with option G2 or G3)	Standard
L13	Back panel with EzEntry block and fittings (no Y2/Y3). (Only in conjunction with option G2 or G3)	

Type	Description	
Power cable		
EU	Power cable with Europlug, type CEE7 (only in conjunction with option G2 or G3)	Standard
GB	Power cable with GB plug, type 360 (only in conjunction with option G2 or G3)	
US	Power cable with US plug, type LAP31 (only in conjunction with option G2 or G3)	
N31	Power cable for 24 V without plug (only in conjunction with option G2 or G3)	

Type	Description	
Interface card		Slot A/B/FB
B14	Interface card serial 2 × RS232	A
B24	Interface card serial 2 × RS232	B
B15	Interface card serial 2 × RS485 (incl. supply for IS platform) for Maxxis 5	A
B25	Interface card serial 2 × RS485 (incl. supply for IS platform) for Maxxis 5	B
B16	Interface card analogue 1 × input/1 × output 0/4–20 mA for Maxxis 5	A
B26	Interface card analogue 1 × input/1 × output 0/4–20 mA for Maxxis 5	B
B17	Interface card digital 4 × input (active)/4 × output (relay) for Maxxis 5	A
B27	Interface card digital 4 × input (active)/4 × output (relay) for Maxxis 5	B
B18	Interface card digital 4 × input (passive)/4 × output (relay) for Maxxis 5	A
B28	Interface card digital 4 × input (passive)/4 × output (relay) for Maxxis 5	B
B19	Interface card digital 6 × input (passive)/8 × output (optodecoupled)	A
B29	Interface card digital 6 × input (passive)/8 × output (optodecoupled)	B
C21	Interface card Profibus DP for Maxxis 5	FB
C24	Interface card DeviceNet for Maxxis 5	FB
C26	Interface card Profinet for Maxxis 5	FB
C27	Interface card Ethernet/IP for Maxxis 5	FB

Type	Description
Approvals	
Y2	Zone 2/22 ATEX Approval
Y3	FM approval class I, II, III div. 2 (in conjunction with option L0 only up to max. 130 V _{AC} power supply)
F3	Kit for calibration approvals

Type	Description
Applications	
H0	BASIC application (verifiable) Standard
H1	ProRecipe XT Terminal
I4	PHASE application (incl. OPC licence)
I5	COUNT application
I6	BATCH application
I8	TRUCK application (incl. Alibi memory licence) (verifiable)
I11	IBC – one-component dosing (verifiable)
I12	Abbe error adjustment licence (for software BASIC)
E5	Alibi memory licence (for BASIC, IBC, COUNT only)
E6	OPC server licence (incl. Accessit 2.0 licence)
E9	Special licence for using the dosing modules in programming

Options for weight controller Maxxis 5 – Only in conjunction with option G2 or G3

Type	Description	Built-in RS485	Slot A		Slot B	
			1. RS485	2. RS485	1. RS485	2. RS485
Cable with cable fitting (RS485)	Serial cable with cable fitting (9-pin Sub D connector), 6 m	M81	M77	M86	M79	M91
	Serial cable with cable fitting (12-pin round plug), 6 m	M74	M61	M63	M66	M68
	Serial cable with cable fitting (12-pin round connector), 6 m	M75	M62	M64	M67	M69
	Serial cable with cable fitting (9-pin Sub D plug), 6 m	M16	M44	M71	M48	M83
	Serial cable with cable fitting (9-pin Sub D connector), 6 m	M17	M45	M72	M49	M84
	Serial cable with cable fitting (12-pin round plug), 6 m	M18	M46	M73	M59	M85
	Serial cable with cable fitting (12-pin round connector), 6 m	M19	M47	M82	M60	M87

Option	Description
M39	Cable for integrated Ethernet TCP/IP connection Ethernet connector RJ45, IP66 (not with option Y2 or Y3)
M40	Cable for integrated Ethernet TCP/IP connection Ethernet cable with fittings, RJ45 plug, 7 m
N29	Cable for integrated USB port USB connector USB type A (not with option Y2 or Y3)
N30	Cable for integrated USB port USB cable for YBR05 scanner
CX1	Connection to (EX) operator terminal PR 5900/6x and PR 5900/7x Connection to Maxxis 5 (EX) operator terminal

Options for weight controller Maxxis 5 – fixed configurations which cannot be modified by additional options

Type	Description	Order number
PR 5900/00	Maxxis 5 controller housing for cabinet assembly (G1), A/D converter (W1), 110/230 V (L0), BASIC application (H0), digital inputs passive (DE1)	9405 159 00001
PR 5900/01	Maxxis 5 controller housing for cabinet assembly (G1), A/D converter (W1), 24 V (L8), BASIC application (H0), digital inputs passive (DE1)	9405 159 00011
PR 5900/02	Maxxis 5 controller table-top housing (G2), back panel with cable glands (L12), A/D converter (W1), 110/230 V (L0), BASIC application (H0), digital inputs passive (DE1), power cable with Europlug (EU)	9405 159 00021
PR 5900/03	Maxxis 5 controller table-top housing with bracket (G3), back panel with cable glands (L12), A/D converter (W1), 110/230 V (L0), BASIC application (H0), digital inputs passive (DE1), power cable with Europlug (EU)	9405 159 00031

Accessory weight controller Maxxis 5 – for subsequent installation

Type	Description	Order number
PR 5900/10	A/D converter	9405 359 00101
PR 5900/04	Interface card serial 2× RS485 (incl. supply for IS platform)	9405 359 00041
PR 5900/07	Interface card analogue 1× input/1× output 0/4–20 mA	9405 359 00071
PR 5900/12	Interface card digital 4× input (passive)/4× output (relay) for Maxxis 5	9405 359 00121
PR 5900/13	Interface card digital 4× input (active)/4× output (relay) for Maxxis 5	9405 359 00131
PR 5900/17	Interface card digital 6× input (passive)/8× output (optodecoupled)	9405 359 00171
PR 5900/32	Interface card serial 2× RS232	9405 359 00321
PR 1721/51	Interface card with Profibus DP	9405 317 21511
PR 1721/54	Interface card with DeviceNet	9405 317 21541
PR 1721/66	Interface card with ProfiNet	9405 317 21661
PR 1721/67	Interface card with Ethernet/IP	9405 317 21671
PR 1721/76	Interface card with dual port ProfiNet (from serial number ≥30363xxxxx)	9405 317 21761
PR 1721/77	Interface card with dual port Ethernet/IP (from serial number ≥30363xxxxx)	9405 317 21771
PR 5230/30	Ethernet connector RJ45, IP66	9405 352 30301
PR 5230/31	Ethernet cable with cable fitting, 7 m, RJ45 plug	9405 352 30311
PR 5900/41	Serial cable with cable fitting (9-pin Sub D plug)	9405 359 00411
PR 5900/42	Serial cable with cable fitting (9-pin Sub D connector)	9405 359 00421
PR 5900/43	Serial cable with cable fitting (12-pin round plug)	9405 359 00431
PR 5900/44	Serial cable with cable gland (12-pin round connector)	9405 359 00441
PR 5900/81	PHASE application (incl. OPC licence)	9405 359 00811
PR 5900/82	COUNT application	9405 359 00821
PR 5900/83	BATCH application	9405 359 00831
PR 5900/84	TRUCK application (incl. Alibi memory licence)	9405 359 00841
PR 5900/86	IBC – one-component dosing	9405 359 00861
PR 5900/87	Abbe error adjustment licence (software BASIC only)	9405 359 00871
PR 5900/91	Alibi memory licence (for BASIC, IBC, COUNT and TRUCK only)	9405 359 00911
PR 5900/92	OPC server licence (incl. AccessIt 2.0 licence)	9405 359 00921
PR 5900/93	Special licence for using the dosing modules in programming	9405 359 00931
PR 1899/99	SARTOCOMB calibration sticker set for PR 5230, PR 5410, PR 5510, PR 5900	9405 318 99991

Accessories for (EX) operator terminal for use in ATEX zone 1/21 (option CX1 required)

Type	Description	Order number
PR 5900/60	(EX) operator terminal for Maxxis 5, housing for cabinet assembly (YPSC01-* power supply unit required)	9405 359 00601
PR 5900/70	(EX) operator terminal for Maxxis 5, housing for table-top mounting (YPSC01-* power supply unit required)	9405 359 00701

Accessories for operator terminal (option CX1 required) for installation in safe area (not EX)

Type	Description	Order number
PR 5900/61	Operator terminal for Maxxis 5, housing for cabinet assembly (24 V power supply unit required)	9405 359 00611
PR 5900/71	Operator terminal for Maxxis 5, housing for table-top mounting (24 V power supply unit required)	9405 359 00711

The products and solutions presented in this data sheet make major contributions in the following sectors:



Food and beverages



Pharmaceutical



Chemistry



Agribusiness



Cosmetics



Building materials



Machinery (OEM)

The technical data given serves as a product description only and should not be understood as guaranteed properties in the legal sense.

Specifications subject to change without notice.
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