

TO-PASS® Telecontrol Technology

⋖ Section 3

Controllers

Programmable fieldbus controllers for telecontrol technology

TO-PASS® Telecontrol Technology

 Telecontrol technology based on GSM/GPRS Section 8 ▶

Radio Technology

- Bluetooth®
- WLAN
- EnOcean®

General Product Information

From Fault Detector to Intelligent Telecontrol PLC

The TO-PASS® product series makes it possible to monitor remote objects even in harsh environmental conditions at any time. The devices use the GSM mobile radio network and can communicate wirelessly without data lines or radio links.

Data can be sent to a user-selected destination (e.g., WAGO Web portal) and easily accessed from any browser. Remote access ensures a high degree of system uptime, while simultaneously relieving service personnel from the burden of performing time-consuming, on-site inspections. With an appropriate GSM service provider contract, wireless connection is more efficient and cost-effective than a standard wired connection. TO-PASS® Compact modules can be commissioned via configuration tool without programming knowledge, serving as a convenient gateway into wireless communication and telecontrol technology.

Application: Error Message Monitoring

Error messages are recorded locally and reported via SMS, e-mail or fax. Conversely, outputs can be connected via SMS.

Application: Cyclic monitoring

Process data is recorded cyclically, transmitted over the Web via GPRS and saved centrally. All options for analysis and further processing including engagement in the process are available.

Application: Detection and Object Tracking

Using GPS, TO-PASS® Mobile makes it possible to capture position and process values. This permits tracking of personnel and vehicles, trip monitoring, fleet management and much more.

Application: Intelligent Telecontrol PLC

The combination of intelligent data preprocessing with integration into the central TO-PASS® data storage provides optimal scalability for comprehensive support of even the most complex applications.

Data Collection/Distribution via Web Portal

The TO-PASS® Web Portal is an adaptive portal capable of identifying and independently visualizing values from the TO-PASS® Compact modules — no programming required. It makes it easy to view and manage data in a Web browser on the Internet.

Remote Parameterization

All TO-PASS® devices can also be configured remotely using the CSD service of the GSM network.

Integrated Position Determination

An integrated GPS receiver allows TO-PASS® Mobile devices to detect position within 20 meters and to manage this together with the actual process values. This can be helpful, for example, to record compliance of a cold chain for food transport on land and at sea without interruption.

High Degree of Protection

TO-PASS® Outdoor makes it possible to use the telecontrol modules even under difficult environmental conditions. The enclosure protects against moisture. An integrated UPS bridges power failures and can also, for example, send an error message. The option of integrating enclosure heating extends the unit's operating temperature range, opening it up to additional applications, such as wind power plants. Solar operation also ensures stand-alone use.

Approvals

TO-PASS® devices have a have a broad range of approvals for worldwide telephone networks. That means unrestricted applicability throughout the European Union. There are also approvals for Croatia, Turkey, Singapore, USA, Canada and Mexico. Approvals for other countries are available on request.

- Very easy to use
- Versions for different requirements
- Parameterization without programming knowledge
- Great coverage and availability of the GSM network
- Data collection/distribution via Web portal
- Low ongoing mobile radio costs typically < 10 € / month
- Optional: High degree of protection

Versions

TO-PASS® Compact (A)

- Compact telecontrol modules
- With integrated GSM modem
- With integrated I/Os in different configurations
- Message dispatch via SMS, e-mail, fax or over the phone
- Switching of outputs via SMS

TO-PASS® Compact, Event/Process Memory Option (A)

- Same as above
- Also local storage of all status changes
- Also local storage of all process values (cyclic, settable)

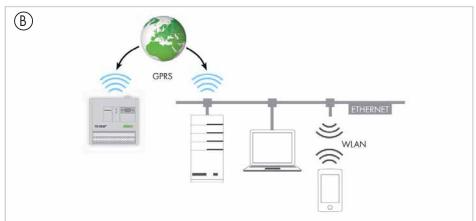
TO-PASS® Compact, Web Option (B)

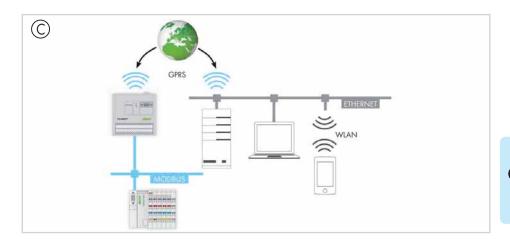
- Same as above
- Also GPRS: permanent online connection to the process
- Allows cyclic data transmission to the TO-PASS® Web Portal
- Allows cyclic data transmission to a controller with a fixed IP address that receives and further processes the data using the TO-PASS® Web Connector (see Application Notes)
- Allows cyclic data transmission to any PC with a fixed IP address furnished with the TO-PASS® communication protocol

TO-PASS® Compact, MODBUS Option (C)

- Same as above
- Additional option for reading in data via MODBUS, e.g., from the WAGO-I/O-SYSTEM 750
- Connection via RS-232 or RS-485 depending on the version

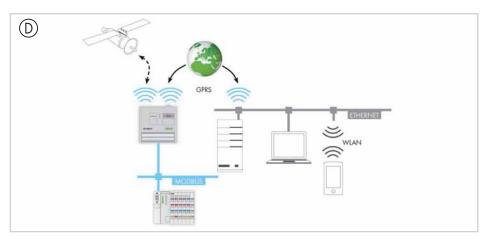






TO-PASS® Mobile (D)

- Like TO-PASS® Compact
- Additional option for position determination via GPS

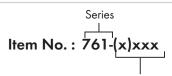






Item Number Keys

Explanation of the components for the item number key



1xx: Compact telecontrol module with 4DI, 4DO

2xx: Compact telecontrol module with 8DI, 4DO, 8AI, 2AO

3xx: Mobile telecontrol module with 4AI

x10: standard

x11: Additional 2 Al

x12: Additional Web option

x13: Additional 2 AI + Web option

114: Additional 2 AI + Web option + MODBUS RS-485

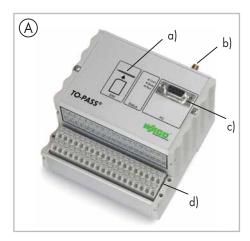
214: Additional Event Logger, Data Logger option

x16: Additional Web option + MODBUS RS-232

x17: Additional Web option + MODBUS RS-232

9009: Outdoor unit (without telecontrol module)

Interfaces and Configurations



TO-PASS® Compact (A)

- Slot for SIM card (a)
- Antenna connection (b)
- RS-232/-485 serial interface (c)
- I/O connection level (d)
- W x H x L (mm) $109 \times 78 \times 105$ Height from upper edge of DIN 35 rail



TO-PASS® Mobile (B)

- Like TO-PASS® Compact
- Additional antenna connection for GPS receivers (a)



TO-PASS® Outdoor (C)

- Compact unit for mounting telecontrol modules in an IP66 enclosure
- Integrated GSM antenna
- 230 VAC supply voltage
- Power failure protection by batteries
- Option: Temperatures down to -4 °C are possible with built-in heater
- Self-sustaining solar operation mode also available
- W x H x L (mm) 280 x 130 x 310 incl. cable grips



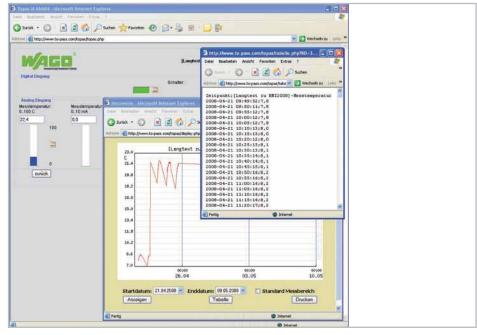
Application and Installation Instructions

Manage Data with TO-PASS® Web Portal
The TO-PASS® Compact and TO-PASS® Mobile
device versions with Web functionality are

device versions with Web functionality are able to transmit data cyclically to a central Web server. The process image (i.e., states and values of all digital and analog inputs) is transmitted to the Web server with time stamp at a variably configurable interval and then stored in a database. Standard data loggers and the cumbersome process of reading out data are no longer necessary.

The TO-PASS® Web Portal can be used as a Web server.

In addition to simple data storage, it provides password-protected visualization with current process data representation and chart recorder for measured value history. Controlling and managing your data is simplified by using an Internet browser via www.to pass.com. More information on the TO-PASS® Web Portal is available in Section 1.

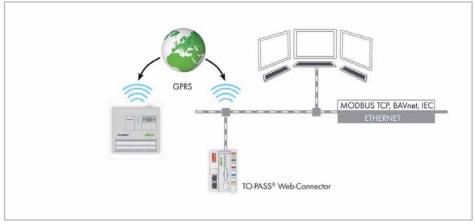


Application: TO-PASS® Web Portal as a central Web server with evaluation function

Forward Data with TO-PASS® Web Connector

The TO-PASS® Web Connector function block is available for easy integration of fault detectors in the control system. Error and event messages are transmitted by GPRS data string via HTTP to a WAGO controller with a fixed IP address. These in turn are capable of passing the data to a central control system via different communication protocols (e.g., MODBUS TCP, BACnet, IEC telecontrol protocols).

Refer to Section 3 for suitable controllers.

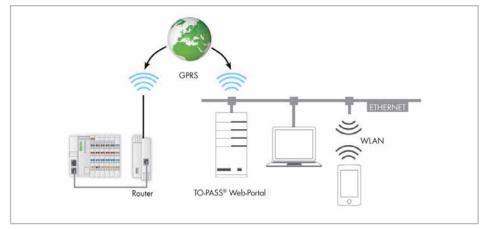


Application: TO-PASS® Web Connector as a link between local data and control system

Intelligent Decentralized Data Preprocessing

The combination of a programmable fieldbus controller, connected WAGO-I/O-SYSTEM 750 and TO-PASS® are appropriate for telecontrol tasks that require a local controller. Connection to the GPRS is made via a standard router — we can recommend one as needed. Prepared function blocks are available for communication with the TO-PASS® Web Portal. These intelligent telecontrol stations can also be fully integrated in the TO-PASS® infrastructure for seamlessly adapting into the application environment.

Information on WAGO-I/O-SYSTEM 750 controllers is available in Section 3.



Application: Programmable fieldbus controller with WAGO-I/O-SYSTEM 750 as a data logger and data preprocessor for TO-PASS®

Telecontrol Technology — TO-PASS®Standards and Rated Conditions

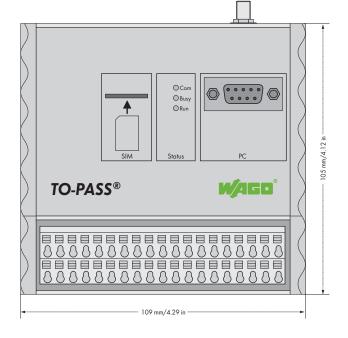
-20 °C +70 °C -40 °C +85 °C 95 %
95 %
0 m 2000 m
0 m 15000 m
II acc. to IEC 61131-2
4g acc. to IEC 60068-2-6
15g acc. to IEC 60068-2-27
EN 61000-6-2
EN 61000-6-3
IP20
on DIN- rail
any
SMA socket
250 Series Terminal Blocks with PUSH WIRE® connection
0.5 mm ² 1.5 mm ² /22 14 AWG; 9 mm/0.35 in.



TO-PASS® Compact

Telecontrol module for fault detection/indication, monitoring and remote control





Compact telecontrol module for fault detection/indication and monitoring of machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. In addition, the process image can be transmitted in an adjustable cycle to a user-selected Internet address. Switching of outputs is performed via SMS.

4 digital inputs, 4 digital outputs and 2 analog inputs with integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20°C to +70°C. Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage ranges from +10V to 30VDC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parametrization: Programming and remote control conveniently performed from the office

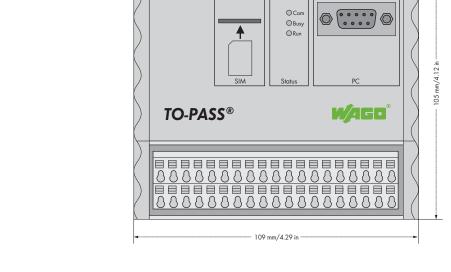
Description	Item No.	Pack. Unit
TO-PASS® Compact	761-110	1
Accessories	Item No.	
Antennas, USB adapter and power su	pply see pages :	576 577
units		
TO-PASS® Configuration Software	see Section	1
Approvals		
Approvals	for all EU countri	es
	Approvals for oth	ner countries on request
® UL 508		
Technical Data		
Technical Data Operating temperature	-20 °C +70 °	С
	-20 °C +70 ° DIN 35 rail	С
Operating temperature	20 0 7 0	С
Operating temperature Type of mounting	DIN 35 rail SMA Terminal strips (V	VAGO 250 Series)
Operating temperature Type of mounting Antenna connection Wire connection	DIN 35 rail SMA Terminal strips (V with push-wire co	VAGO 250 Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections	DIN 35 rail SMA Terminal strips (V with push-wire co 0.5 mm ² 1.5 r	VAGO 250 Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths	DIN 35 rail SMA Terminal strips (V with push-wire cc 0.5 mm² 1.5 r 9 mm /0.35 in	VAGO 250 Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	DIN 35 rail SMA Terminal strips (V with push-wire cc 0.5 mm ² 1.5 r 9 mm /0.35 in 109 x 78 x 105	VAGO 250 Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	DIN 35 rail SMA Terminal strips (V with push-wire cc 0.5 mm² 1.5 r 9 mm /0.35 in 109 x 78 x 105 412 g	VAGO 250 Series) connection com ² / AWG 22 14
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	DIN 35 rail SMA Terminal strips (V with push-wire cc 0.5 mm² 1.5 r 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °	VAGO 250 Series) connection com ² / AWG 22 14
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature Degree of protection	DIN 35 rail SMA Terminal strips (V with push-wire cc 0.5 mm² 1.5 r 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 ° IP20	VAGO 250 Series) connection nm² / AWG 22 14
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	DIN 35 rail SMA Terminal strips (V with push-wire cc 0.5 mm² 1.5 r 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °	VAGO 250 Series) connection nm² / AWG 22 14

Technical Data Digital inputs: Number of inputs Input current Signal voltage (0) Signal voltage (1) Digital outputs: No. of outputs Output current (max.) Communication Communication types Signaling Operating voltage Closed current Current during transmission 4 (Type 3) 4 (Type 3) 4 (Type 3) A (Type 4) A (Type 3) A (Type 4) A (Type 3) A (Type 4) A (Type 3) A (Type 4) A (Ondary Condary Condar		
Number of inputs 4 (Type 3) Input current max. 2.9 mA at 30 V DC Signal voltage (0) 0 V 5 V DC Signal voltage (1) 7 V 30 V DC Digital outputs: No. of outputs 4 contacts Output current (max.) 0.5 A/ 30 V DC, short-circuit protected Communication GSM quad-band Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	Technical Data	
Input current max. 2.9 mA at 30 V DC Signal voltage (0) 0 V 5 V DC Signal voltage (1) 7 V 30 V DC Digital outputs: No. of outputs 4 contacts Output current (max.) 0.5 A/ 30 V DC, short-circuit protected Communication GSM quad-band Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	Digital inputs:	
Signal voltage (0) 0 V 5 V DC Signal voltage (1) 7 V 30 V DC Digital outputs: No. of outputs 4 contacts Output current (max.) 0.5 A/ 30 V DC, short-circuit protected Communication GSM quad-band Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	Number of inputs	4 (Type 3)
Signal voltage (1) Digital outputs: No. of outputs Output current (max.) Communication Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling Operating voltage Closed current TV 30 V DC 4 contacts 0.5 A/ 30 V DC, short-circuit protected SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication +10 V +30 V DC closed current approx. 20 mA at +24V operating voltage	Input current	max. 2.9 mA at 30 V DC
Digital outputs: No. of outputs Output current (max.) Communication Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling Operating voltage Closed current A contacts 4 contacts 0.5 A/ 30 V DC, short-circuit protected SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication 410 V +30 V DC closed current	Signal voltage (0)	0 V 5 V DC
No. of outputs Output current (max.) Communication Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling Operating voltage Closed current 4 contacts 4 contacts 0.5 A/ 30 V DC, short-circuit protected SMS (bidirectional), telecommunication dial-up connection (CSD) 3 LEDs for operating status indication +10 V +30 V DC approx. 20 mA at +24V operating voltage	Signal voltage (1)	7 V 30 V DC
Output current (max.) Communication Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling Operating voltage Closed current O.5 A/ 30 V DC, short-circuit protected SMS (bidirectional), telecommunication dial-up connection (CSD) 3 LEDs for operating status indication +10 V +30 V DC approx. 20 mA at +24V operating voltage	Digital outputs:	
Communication GSM quad-band Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	No. of outputs	4 contacts
Communication types SMS (bidirectional), telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
telecommunication dial-up connection (CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	Communication	GSM quad-band
(CSD) Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage	Communication types	SMS (bidirectional),
Signaling 3 LEDs for operating status indication Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltage		telecommunication dial-up connection
Operating voltage +10 V +30 V DC Closed current approx. 20 mA at +24V operating voltag		(CSD)
Closed current approx. 20 mA at +24V operating voltag	Signaling	3 LEDs for operating status indication
11, 11, 11, 11, 11, 11, 11, 11, 11, 11,	Operating voltage	+10 V +30 V DC
Current during transmission < 500 mA at +24V operating voltage	Closed current	approx. 20 mA at +24V operating voltage
	Current during transmission	< 500 mA at +24V operating voltage

TO-PASS® Compact, 2 Al

Telecontrol module for fault detection/indication, monitoring and remote control





Compact telecontrol module for fault detection/indication and monitoring of machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. Switching of outputs is performed via SMS. 4 digital inputs, 4 digital outputs and 2 analog inputs with integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20°C to +70°C. Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage ranges from +10V to 30VDC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parametrization: Programming and remote control conveniently performed from the office

Description		Item No.	Pack. Unit
TO-PASS® Compact, 2 AI		761-111	1
Accessories		Item No.	
Antennas, USB adapter and power su	upply	see pages 576 52	77
units			
TO-PASS® Configuration Software		see Section 1	
Approvals			
Approvals	for	all EU countries	
	App	provals for other count	ries on request
.® UL 508			
Technical Data			
Operating temperature	-20	°C +70 °C	
Type of mounting	DIN	l 35 rail	
Antenna connection	SM.		
		A	
Wire connection	Terr	A minal strips (WAGO 2	50 Series)
	with	minal strips (WAGO 2 n push-wire connection	
Wire connection Cross sections	with 0.5	minal strips (WAGO 2 n push-wire connection mm ² 1.5 mm ² / AV	
Cross sections Strip lengths	with 0.5 9 m	minal strips (WAGO 2. push-wire connection mm ² 1.5 mm ² / AV m /0.35 in	
Cross sections	with 0.5 9 m	minal strips (WAGO 2 n push-wire connection mm ² 1.5 mm ² / AV	
Cross sections Strip lengths Dimensions (mm) W x H x L Weight	with 0.5 9 m 109 412	ninal strips (WAGO 2 n push-wire connection mm ² 1.5 mm ² / AV m /0.35 in P x 78 x 105	
Cross sections Strip lengths Dimensions (mm) W x H x L	with 0.5 9 m 109 412	minal strips (WAGO 2 n push-wire connection mm ² 1.5 mm ² / AV m /0.35 in P x 78 x 105	
Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature Degree of protection	with 0.5 9 m 109 412 -40 IP20	minal strips (WAGO 2 n push-wire connection mm² 1.5 mm² / AV m /0.35 in P x 78 x 105 2 g °C +85 °C	
Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	with 0.5 9 m 109 412 -40 IP20	ninal strips (WAGO 2 a push-wire connection mm² 1.5 mm² / AV mm /0.35 in P × 78 × 105 2 g °C +85 °C	

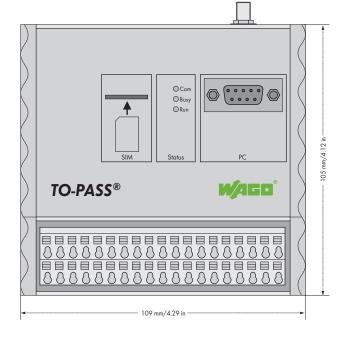
Technical Data	
Digital inputs:	
Number of inputs	4 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	2 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$< \pm 1$ % of the full scale value
Temperature coefficient	$<\pm$ 0.1 % / K of the full scale value
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage



TO-PASS® Compact, WEB

Telecontrol module for fault detection/indication, monitoring and remote control





Compact telecontrol module for fault detection/indication and Internet connectivity for machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. In addition, the process image can be transmitted in an adjustable cycle to a user-selected Internet address. Switching of outputs is performed via SMS.

4 digital inputs and 4 digital outputs with integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20 $^{\circ}$ C to +70 $^{\circ}$ C. Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage ranges from +10V to 30VDC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parametrization: Programming and process visualization conveniently performed from the office
- GPRS-dedicated line: Permanent online connection to the process on a WEB server or PC with fixed IP address (e.g., DSL connection)

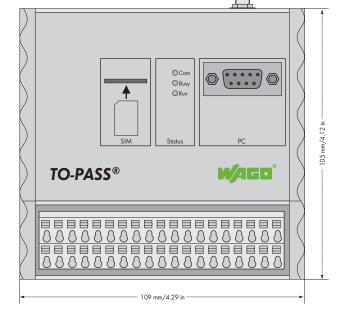
Description	Item No.	Pack. Unit
TO-PASS® Compact, WEB	761-112	1
Accessories	Item No.	
Antennas, USB adapter and power s	upply see pages 57	'6 577
TO-PASS® Configuration Software	see Section 1	
TO-PASS® Web Portal	see Section 1	
Approvals		
Approvals	for all EU countries	
11		
· ®= UL 508		countries on request
·	Approvals for other	countries on request
•®= UL 508 Technical Data Operating temperature	Approvals for other	countries on request
•®= UL 508 Technical Data Operating temperature Type of mounting	-20 °C +70 °C DIN 35 rail	countries on request
•©= UL 508 Technical Data Operating temperature Type of mounting Antenna connection	-20 °C +70 °C DIN 35 rail SMA	
•®= UL 508 Technical Data Operating temperature Type of mounting	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA	.GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire conn	GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire cont 0.5 mm ² 1.5 mm	.GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire conr 0.5 mm ² 1.5 mm 9 mm /0.35 in	GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire conr 0.5 mm ² 1.5 mm 9 mm /0.35 in 109 x 78 x 105	GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire cont 0.5 mm ² 1.5 mm 9 mm /0.35 in 109 x 78 x 105 412 g	GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire conr 0.5 mm² 1.5 mm 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °C	GO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	-20 °C +70 °C DIN 35 rail SMA Terminal strips (WA with push-wire cont 0.5 mm ² 1.5 mm 9 mm /0.35 in 109 x 78 x 105 412 g	GO 250 Series) nection 12 / AWG 22 14

Technical Data	
Digital inputs:	
Number of inputs	4 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
	GPRS connection to Internet
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage

TO-PASS® Compact, 2 AI, WEB

Telecontrol module for fault detection/indication, monitoring and remote control





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address. Switching of outputs is performed via SMS.

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Description	Item No.	Pack. Unit
TO-PASS® Compact, 2 AI, WEB	761-113	1
Accessories	Item No.	
Antennas, USB adapter and power supp	ly see pages 576 5	77
units		
TO-PASS® Configuration Software	see Section 1	
TO-PASS® Web Portal	see Section 1	
Approvals		
Approvals	for all EU countries	
	Approvals for other count	ries on request
. UL 508		
Technical Data		
Operating temperature	-20 °C +70 °C	
Type of mounting	DIN 35 rail	
Antenna connection	SMA	
Wire connection	Terminal strips (WAGO 2	50 Series)
	with push-wire connection	ı
Cross sections	0.5 mm ² 1.5 mm ² / A\	NG 22 14
Strip lengths	9 mm /0.35 in	
Dimensions (mm) W x H x L	109 x 78 x 105	
· · ·	412 g	
Storage temperature	-40 °C +85 °C	
a ogradi di protoditori	IP20	
	acc. to EN 61000-6-2	
EMC emission of interference	acc. to EN 61000-6-3	

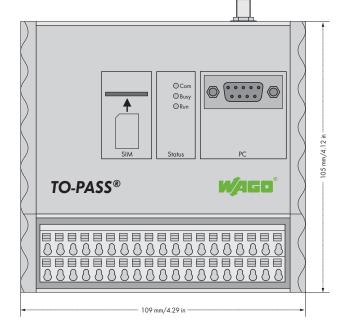
Digital inputs:	
Number of inputs	4 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	2 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$< \pm$ 0.1 % / K of the full scale value
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
	GPRS connection to Internet
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage



TO-PASS® Compact, 2 AI, Web, MODBUS, RS-485

Telecontrol module for fault detection/indication, monitoring and remote control





Compact telecontrol module provides fault detection/indication and Internet connectivity for machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. In addition, the process image can be transmitted in an adjustable cycle to a user-selected Internet address. A MODBUS slave (e.g., 750-815) can be connected via RS-485 interface to link additional process values. Switching of outputs is performed via SMS or TO-PASS® Web Portal.

The module is equipped with 4 digital inputs, 4 analog outputs and 2 digital inputs, including an integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20°C to +70°C. Ability to mount on DIN-rail and intuitive user software make unit easy to use.

Operating voltage ranges from +10 to +30 VDC.

- Acknowledgement: Any fault message
- · Stand-by: Automatic remote switching of stand-by service
- Remote parameterization: Programming and process visualization conveniently performed from the office
- GPRS-dedicated line: Permanent online connection to the process on a Web server or PC with fixed IP address (e.g., DSL connection)
- Counter function: Maximum four of the digital inputs can be used as up or down counter. The maximum operating frequency is 1250 Hz.

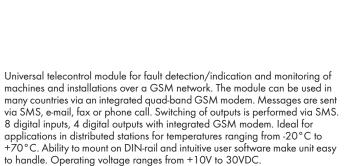
Description	Item No.	Pack. Unit
TO-PASS® Compact, 2 AI, Web, MOD	BUS, 761-114	1
RS-485		
Accessories	Item No.	
Antennas, USB adapter and power su	ipply see pages 576	577
units		
TO-PASS® Configuration Software	see Section 1	
TO-PASS® Web Portal	see Section 1	
Approvals		
Approvals	for all EU countries	
	Approvals for other cou	ntries on reques
(® UL 508	pending	
Technical Data		
Operating temperature	-20 °C +70 °C	
Type of mounting	DIN 35 rail	
Antenna connection	SMA	
Wire connection	Terminal strips (WAGO	250 Series)
	with PUSH WIRE® conn	
		AVA/C 00 1.4
Cross sections	0.5 mm ² 1.5 mm ² / /	AVVG 22 14
Cross sections Strip lengths	0.5 mm ² 1.5 mm ² / / 9 mm /0.35 in	AVVG 22 14
	· ·	AVVG 22 14
Strip lengths	9 mm /0.35 in	AWG 22 14
Strip lengths Dimensions (mm) W x H x L	9 mm /0.35 in 109 x 78 x 105	AWG 22 14
Strip lengths Dimensions (mm) W x H x L Weight	9 mm /0.35 in 109 x 78 x 105 412 g	AWG 22 14
Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °C	AWG 22 14

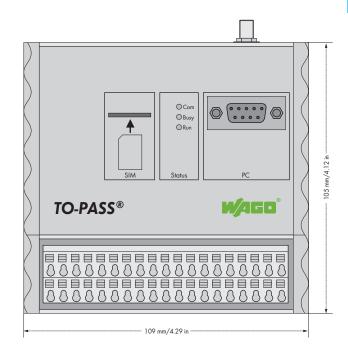
Technical Data	
MODBUS	
Transmission modes	RS-485 (2-conductor), RTU Master
Baud rate	9.6 and 19.2 kbaud
	(8N1, 8E1, 8O1, 8N1)
Read-out register	max. 64 registers (input or holding)
Digital inputs:	
Number of inputs	4 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	2 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$< \pm 0.1 \%$ / K of the full scale value
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Analog outputs:	
Measuring error (25 °C)	$< \pm 1$ % of the full scale value
Temperature coefficient	$< \pm 0.1 \%$ / K of the full scale value
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
	GPRS connection to Internet
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage

TO-PASS® Compact

Telecontrol module for fault detection/indication, monitoring and remote control







- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parametrization: Programming and remote control conveniently performed from the office

Description	Item No.	Pack. Unit
TO-PASS® Compact	761-210	1
Accessories	Item No.	
Antennas, USB adapter and power su	pply see pages 5	76 577
units		
TO-PASS® Configuration Software	see Section	1
Approvals		
Approvals	for all EU countrie	S
• •	Approvals for other	er countries on request
® UL 508		
Technical Data		
Operating temperature	-20 °C +70 °C	
Type of mounting	DIN 35 rail	
Antenna connection	SMA	
Wire connection	Terminal strips (W	'AGO 250 Series)
	with push-wire cor	nnection
Cross sections	$0.5 \text{ mm}^2 \dots 1.5 \text{ m}$	m² / AWG 22 14
Strip lengths	9 mm / 0.35 in	
Dimensions (mm) W x H x L	109 x 78 x 105	
	412 g	
Weight	412 g	
Weight Storage temperature	-40 °C +85 °C	
<u> </u>	U	
Storage temperature	-40 °C +85 °C	

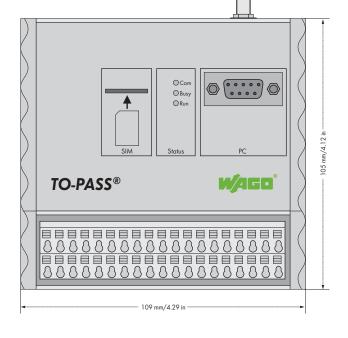
Technical Data	
Digital inputs:	
Number of inputs	8 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage



TO-PASS® Compact, 8 AI, ELog, DLog

Telecontrol module for fault detection/indication, monitoring and remote control





Universal telecontrol module for fault detection/indication and monitoring of machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. An integrated event logger creates the process image of all occurring events and stores all digital and analog values available at the telecontrol module. The data memory stores up to 4096 process images in an adjustable cycle time. Switching of outputs is performed via SMS.

8 digital inputs, 8 analog inputs, 4 digital outputs and 2 analog outputs with integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20 $^{\circ}$ C to +70 $^{\circ}$ C. Ability to mount on DIN-rail and intuitive user software make unit easy to handle.

Operating voltage ranges from +10V to 30VDC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parametrization: Programming and remote control conveniently performed from the office
- Event logger: Saves all occurring status changes
- Data logger: Saves all process values with adjustable cycle

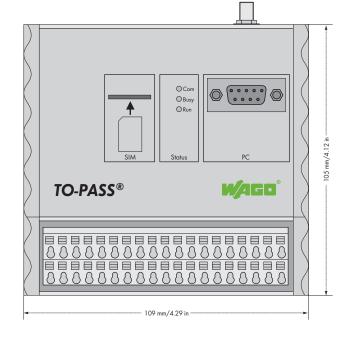
Description	Item N	lo.	Pack Unit
TO-PASS® Compact, 8 AI, ELog, DLog	761-2	14	1
Accessories	Item N	lo.	
Antennas, USB adapter and power su	pply see pag	ges 576 57	77
units			
TO-PASS® Configuration Software	see Sec	ction 1	
Approvals			
Approvals	for all EU co	untries	
	Approvals fo	r other countri	ies on reques
(®)∞ UL 508	, преточане не		
- UL 508 Technical Data	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	-20 °C +7		
Technical Data			
Technical Data Operating temperature Type of mounting Antenna connection	-20 °C +7 DIN 35 rail SMA	70 °C	
Technical Data Operating temperature Type of mounting	-20 °C +7 DIN 35 rail SMA Terminal strip	70 °C os (WAGO 25	
Technical Data Operating temperature Type of mounting Antenna connection Wire connection	-20 °C +7 DIN 35 rail SMA Terminal strip with push-win	70 °C os (WAGO 25	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections	-20 °C +7 DIN 35 rail SMA Terminal strip with push-wir 0.5 mm ² 1	os (WAGO 25 re connection 1.5 mm² / AW	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths	-20 °C +7 DIN 35 rail SMA Terminal strig with push-wir 0.5 mm ² 1 9 mm /0.35	os (WAGO 25 re connection 1.5 mm² / AW in	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	-20 °C +7 DIN 35 rail SMA Terminal strip with push-wir 0.5 mm ² 1 9 mm /0.35 109 x 78 x	os (WAGO 25 re connection 1.5 mm² / AW in	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	-20 °C +7 DIN 35 rail SMA Terminal strip with push-wir 0.5 mm ² 1 9 mm /0.35 109 x 78 x 412 g	70 °C os (WAGO 25 re connection 1.5 mm² / AW in 105	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	-20 °C +7 DIN 35 rail SMA Terminal strip with push-wir 0.5 mm ² 1 9 mm /0.35 109 x 78 x 412 g -40 °C +8	70 °C os (WAGO 25 re connection 1.5 mm² / AW in 105	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature Degree of protection	-20 °C +7 DIN 35 rail SMA Terminal strig with push-wi 0.5 mm ² 1 9 mm /0.35 109 x 78 x 412 g -40 °C +8 IP20	os (WAGO 25 re connection in 105	50 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	-20 °C +7 DIN 35 rail SMA Terminal strip with push-wir 0.5 mm ² 1 9 mm /0.35 109 x 78 x 412 g -40 °C +8	os (WAGO 25 re connection 1.5 mm² / AW in 105 as °C	50 Series)

Technical Data	
rechnical Dala	
Digital inputs:	
Number of inputs	8 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	8 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$< \pm 1$ % of the full scale value
Temperature coefficient	$< \pm 0.1 \%$ / K of the full scale value
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Analog outputs:	
No. of outputs	2 (0/4 mA 20 mA)
Load impedance	≤ 600 Ω
Measuring error (25 °C)	$< \pm 1$ % of the full scale value
Temperature coefficient	$< \pm 0.1 \%$ / K of the full scale value
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage

TO-PASS® Compact, 8 AI, WEB, MODBUS

Telecontrol module for fault detection/indication, monitoring and remote control





Universal telecontrol module for fault detection/indication and Internet connectivity for machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. The data memory stores up to 4096 process images in an adjustable cycle time. In addition, the process image can be transmitted in an adjustable cycle to a user-selected Internet address. A Modbus slave (e.g., 750-816) can be connected via RS-232 interface to link additional process values. Switching of outputs is performed via SMS.

8 digital inputs, 8 analog inputs, 4 digital outputs and 2 analog outputs with integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20 $^{\circ}$ C to +70 $^{\circ}$ C.

Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage ranges from +10V to 30VDC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parametrization: Programming and process visualization conveniently performed from the office
- GPRS-dedicated line: Permanent online connection to the process on a WEB server or PC with fixed IP address (e.g., DSL connection)
- Event logger: Saves all occurring status changes
- Data logger: Saves all process values with adjustable cycle

Description	Item No.	Pack. Unit
TO-PASS® Compact, 8 AI, WEB, MODB	US 761-216	1
Accessories	Item No.	
Antennas, USB adapter and power sup	ply see pages 5	76 577
units	p., coo pagos o	, ,
TO-PASS® Configuration Software	see Section	1
TO-PASS® Web Portal	see Section	1
Approvals		
Approvals	for all EU countrie	se
Approvais	20	
		ar countries on regues
.@₅ III 508	Approvals for other	er countries on reques
«®≖ UL 508	Approvals for other	er countries on reques
	Approvals for other	er countries on reques
Technical Data	-20 °C +70 °C	
Technical Data Operating temperature		
Technical Data Operating temperature Type of mounting	-20 °C +70 °C	
Technical Data Operating temperature Type of mounting Antenna connection	-20 °C +70 °C DIN 35 rail SMA	
Technical Data Operating temperature Type of mounting Antenna connection	-20 °C +70 °C DIN 35 rail SMA	(AGO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire con	(AGO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire con	(AGO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire cor 0.5 mm² 1.5 m	(AGO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire cor 0.5 mm² 1.5 m 9 mm /0.35 in	(AGO 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire cor 0.5 mm² 1.5 m 9 mm /0.35 in 109 x 78 x 105	AGO 250 Series) nnection m² / AWG 22 14
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire cor 0.5 mm² 1.5 m 9 mm /0.35 in 109 x 78 x 105 412 g	AGO 250 Series) nnection m² / AWG 22 14
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	-20 °C +70 °C DIN 35 rail SMA Terminal strips (W with push-wire cor 0.5 mm² 1.5 m 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °C	(AGO 250 Series) Innection m² / AWG 22 14

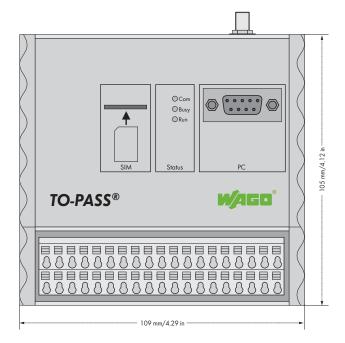
Technical Data	
Digital inputs:	
Number of inputs	8 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	8 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$< \pm 0.1 \%$ / K of the full scale value
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Analog outputs:	
No. of outputs	2 (0/4 mA 20 mA)
Load impedance	≤ 600 Ω
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$<\pm$ 0.1 % / K of the full scale value
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection (CSD)
	GPRS connection to Internet
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage



TO-PASS® Compact, 8 AI, Web, MODBUS, RS-485

Telecontrol module for fault detection/indication, monitoring and remote control





Universal telecontrol module for fault detection/indication and Internet connectivity for machines and installations over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. The data memory stores up to 4096 process images in an adjustable cycle time. In addition, the process image can be transmitted in an

adjustable cycle time. In addition, the process image can be transmitted in an adjustable cycle to a user-selected Internet address. A MODBUS slave (e.g., 750-815) can be connected via RS-485 interface to link additional process values. Switching of outputs is performed via SMS or TO-PASS® Web Portal.

The module is equipped with 8 digital inputs, 8 analog inputs, 4 digital outputs and 2 analog outputs, including an integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20°C to +70°C. Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage ranges from +10 to +30 VDC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of stand-by service
- Remote parameterization: Programming and process visualization conveniently performed from the office
- GPRS-dedicated line: Permanent online connection to the process on a WEB server or PC with fixed IP address (e.g., DSL connection)

 Event logger: Saves all occurring status changes
- Data logger: Saves all process values with adjustable cycle
- Counter function: Maximum four of the digital inputs can be used as up or down counter. The maximum operating frequency is 1250 Hz.

Description	Item No.	Pack. Unit
TO-PASS® Compact, 8 AI, Web, MODBU	S, 761-217	1
RS-485		
Accessories	Item No.	
Antennas, USB adapter and power supp	oly see pages 576 5	77
units		
TO-PASS® Configuration Software	see Section 1	
TO-PASS® Web Portal	see Section 1	
Approvals		
Approvals	for all EU countries	
	Approvals for other count	ries on request
(®∞ UL 508	pending	
Technical Data		
Operating temperature	-20 °C +70 °C	
Operating temperature Type of mounting	DIN 35 rail	
Operating temperature Type of mounting Antenna connection	DIN 35 rail SMA	50.6 : \
Operating temperature Type of mounting	DIN 35 rail SMA Terminal strips (WAGO 2	
Operating temperature Type of mounting Antenna connection Wire connection	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connec	ction
Operating temperature Type of mounting Antenna connection Wire connection Cross sections	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connect 0.5 mm² 1.5 mm² / AN	ction
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connec 0.5 mm² 1.5 mm² / AN 9 mm /0.35 in	ction
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connec 0.5 mm² 1.5 mm² / AN 9 mm /0.35 in 109 x 78 x 105	ction
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connec 0.5 mm² 1.5 mm² / AN 9 mm /0.35 in 109 x 78 x 105 412 g	ction
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connec 0.5 mm² 1.5 mm² / AN 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °C	ction
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	DIN 35 rail SMA Terminal strips (WAGO 2 with PUSH WIRE® connec 0.5 mm² 1.5 mm² / AN 9 mm /0.35 in 109 x 78 x 105 412 g	ction

- 1 . 1-	
Technical Data	
MODBUS	
Transmission modes	RS-485 (2-conductor), RTU Master
Baud rate	9.6 and 19.2 kbaud
	(8N1, 8E1, 8O1, 8N1)
Read-out register	max. 64 registers (input or holding)
Digital inputs:	
Number of inputs	8 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	8 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$<\pm$ 0.1 % / K of the full scale value
Digital outputs:	
No. of outputs	4 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Analog outputs:	
No. of outputs	2 (0/4 mA 20 mA)
Load impedance	≤ 600 Ω
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$<\pm$ 0.1 % / K of the full scale value
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
	GPRS connection to Internet
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 20 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage

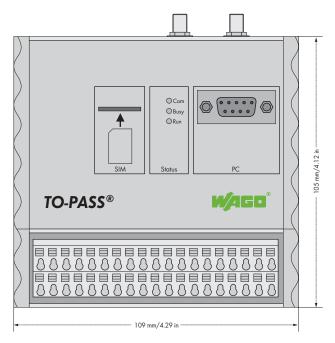
TO-PASS® Mobile, 4 Al

Telecontrol module for fault detection/indication, position monitoring and remote control



Universal telecontrol module for fault detection/indication and position monitoring of machines and products over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. The data memory stores up to 4096 process images in an adjustable cycle time. Switching of outputs is performed

The module is equipped with 4 digital inputs, 4 analog inputs, 2 digital outputs and GPS position data, including an integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20°C to +70°C. Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage +10V ... +30V DC.



- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parameterization: Programming and remote control conveniently performed from the office
- Event logger: Saves all occurring status changes
- Data logger: Saves all process values with adjustable cycle

Description		Item No.	Pack. Unit
TO-PASS® Mobile, 4 AI		761-314	1
Accessories		Item No.	
Antennas, USB adapter and power units	supply	see pages 576 577	,
TO-PASS® Configuration Software		see Section 1	
Approvals			
Approvals	for (all EU countries	
	App	provals for other countrie	s on request
Technical Data			
Technical Data Operating temperature	-20	°C +70 °C	
Operating temperature Type of mounting	DIN	1 35 rail	
Operating temperature Type of mounting Antenna connection	DIN SM.	I 35 rail A socket (for both GSM	•
Operating temperature Type of mounting	DIN SM. Terr	I 35 rail A socket (for both GSM ninal strips (WAGO 250	•
Operating temperature Type of mounting Antenna connection Wire connection	DIN SM. Terr with	I 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections	DIN SM. Terr with 0.5	I 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm ² 1.5 mm ² / AWG	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths	DIN SM. Terr with 0.5	I 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm ² 1.5 mm ² / AWC m /0.35 in	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L	DIN SM. Terr with 0.5 9 m	I 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm ² 1.5 mm ² / AWC m /0.35 in	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	DIN SM. Terr with 0.5 9 m 109	1 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm ² 1.5 mm ² / AWC m /0.35 in 0 x 78 x 105	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	DIN SM. Terr with 0.5 9 m 109 412	1 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm ² 1.5 mm ² / AWC m /0.35 in 0 x 78 x 105 2 g °C +85 °C	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature Degree of protection	DIN SM. Terr with 0.5 9 m 109 412 -40	1 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm² 1.5 mm² / AWC m /0.35 in 2 x 78 x 105 2 g °C +85 °C	Series)
Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	DIN SM. Terrr with 0.5 9 m 109 412 -40 IP20 acc	1 35 rail A socket (for both GSM ninal strips (WAGO 250 push-wire connection mm ² 1.5 mm ² / AWC m /0.35 in 0 x 78 x 105 2 g °C +85 °C	Series)

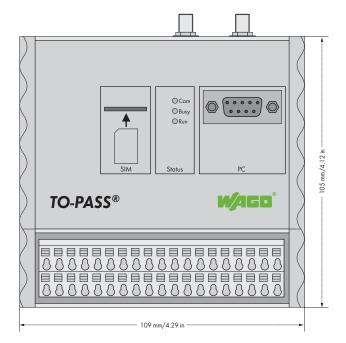
Technical Data	
Digital inputs:	
Number of inputs	4 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	4 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	$<\pm$ 1 % of the full scale value
Temperature coefficient	$< \pm 0.1 \%$ / K of the full scale value
Digital outputs:	
No. of outputs	2 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 35 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage



TO-PASS® Mobile, 4 AI, Web, MODBUS

Telecontrol module for fault detection/indication, position monitoring and remote control





Universal telecontrol module for fault detection/indication, position monitoring and Internet connectivity of machines/products over a GSM network. The module can be used in many countries via an integrated quad-band GSM modem. Messages are sent via SMS, e-mail, fax or phone call. The data memory stores up to 4096 process images in an adjustable cycle time. In addition, the process image and GPS position data can be transmitted in an adjustable cycle to a user-selected Internet address. A MODBUS slave (e.g., 750-816) can be connected via RS-232 interface to link additional process values. Switching of outputs is performed via SMS.

The module is equipped with 4 digital inputs, 4 analog inputs, 2 digital outputs and GPS position data, including an integrated GSM modem. Ideal for applications in distributed stations for temperatures ranging from -20°C to +70°C.

Ability to mount on DIN-rail and intuitive user software make unit easy to handle. Operating voltage +10V ... +30V DC.

- Acknowledgment: Acknowledging any fault message
- Stand-by: Automatic remote switching of the stand-by service
- Remote parameterization: Programming and process visualization conveniently performed from the office
- GPRS-dedicated line: Permanent online connection to the process on a WEB server or PC with fixed IP address (e.g., DSL connection)
- Event logger: Saves all occurring status changes
- Data logger: Saves all process values with adjustable cycle

Description	Item No.	Pack. Unit
TO-PASS® Mobile, 4 AI, Web, MODBUS	761-316	1
Accessories	Item No.	
Antennas, USB adapter and power supp	ly see pages 576	. 577
units		
TO-PASS® Configuration Software	see Section 1	
TO-PASS® Web Portal	see Section 1	
Approvals		
Approvals	for all EU countries	
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, ipprovate	20	untries on reques
, ipprovate	20	untries on reques
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Technical Data	20	untries on reques
Technical Data	Approvals for other co	untries on reques
Technical Data Operating temperature Type of mounting	Approvals for other co	
Technical Data Operating temperature Type of mounting Antenna connection	Approvals for other co	GSM and GPS)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 6	GSM and GPS) 2 250 Series)
Technical Data Operating temperature Type of mounting Antenna connection Wire connection	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 0) Terminal strips (WAGC)	GSM and GPS) 250 Series) ion
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 0 Terminal strips (WAGC with push-wire connect 0.5 mm² 1.5 mm² / 9 mm /0.35 in	GSM and GPS) 250 Series) ion
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 6 Terminal strips (WAGC) with push-wire connect 0.5 mm² 1.5 mm² /	GSM and GPS) 250 Series) ion
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 0 Terminal strips (WAGC with push-wire connect 0.5 mm² 1.5 mm² / 9 mm /0.35 in 109 x 78 x 105 412 g	GSM and GPS) 250 Series) ion
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 6 Terminal strips (WAGC with push-wire connect 0.5 mm² 1.5 mm² / 9 mm /0.35 in 109 x 78 x 105	GSM and GPS) 250 Series) ion
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both 0 Terminal strips (WAGC with push-wire connect 0.5 mm² 1.5 mm² / 9 mm /0.35 in 109 x 78 x 105 412 g	GSM and GPS) 250 Series) ion
Technical Data Operating temperature Type of mounting Antenna connection Wire connection Cross sections Strip lengths Dimensions (mm) W x H x L Weight Storage temperature	Approvals for other co -20 °C +70 °C DIN 35 rail SMA socket (for both of the common strips) (WAGC) with push-wire connect of the common strips (WAGC) 9 mm /0.35 in 109 x 78 x 105 412 g -40 °C +85 °C	GSM and GPS) 2 250 Series) ion AWG 22 14

Technical Data	
Digital inputs:	
Number of inputs	4 (Type 3)
Input current	max. 2.9 mA at 30 V DC
Signal voltage (0)	0 V 5 V DC
Signal voltage (1)	7 V 30 V DC
Analog inputs:	
Number of inputs	4 (0/4 mA 20 mA)
Internal resistance	approx. 200 Ω / 20 mA
Measuring error (25 °C)	< ± 1 % of the full scale value
Temperature coefficient	$<\pm$ 0.1 % $/$ K of the full scale value
Digital outputs:	
No. of outputs	2 contacts
Output current (max.)	0.5 A/ 30 V DC, short-circuit protected
Communication	GSM quad-band
Communication types	SMS (bidirectional),
	telecommunication dial-up connection
	(CSD)
	GPRS connection to Internet
Signaling	3 LEDs for operating status indication
Operating voltage	+10 V +30 V DC
Closed current	approx. 35 mA at +24V operating voltage
Current during transmission	< 500 mA at +24V operating voltage



TO-PASS® Outdoor is a compact, IP66 enclosure for the installation of TO-PASS® telecontrol modules. The unit is equipped with an integrated GSM antenna, 230 VAC to 24 VDC power supply; power failure protection is provided by two batteries, and terminal block connections are included for the supply of additional sensors.

The TO-PASS® telecontrol module is not included in delivery and must be ordered separately.

Description	Item No.	Pack. Unit
Outdoor enclosure	761-9009	1
Included	IP66 housing with integra	ted GSM
	antenna;	
	power supply unit	
	230 VAC to 30 VDC;	
	2 batteries;	
	terminal block connection	s;
	cables;	
	heating	
Accessories	Item No.	Pack. Unit
TO-PASS® Compact telecontrol modules	see pages 564 572	

Technical Data	
Supply voltage	230 VAC;
	Supply of external field sensors:
	30 VDC / max. 150 mA
External fuse	B-16A; C-10A
Degree of protection	IP66
Enclosure	Polycarbonate
Rated power	approx. 42 W (heating included)
Self consumption	approx. 1.5 W at 230 VAC (for charged
	batteries and a TO-PASS® module without
	sensors and heating)
Battery capacity	24 V / 1.2 Ah / annual maintenance
	required;
	Battery runtimes: approx. 24 hours at
	5 minute transmission cycle without
	considering the supply of decentralized
	peripheral devices
Heater	8 W
Heater switch	at 5°C ON, at 15°C OFF
Frequency range	Antenna: GSM (900 MHz)
Dimensions (mm) W x H x L	280x130x310*
	*incl. cable grips
Ambient operating temperature	-4 °C +32 °C
Weight	4,8 kg
Cable grip	10 x M16, 2 x M25
Assembly	4 x drilled holes of 7 mm diameter
Type of mounting	Protected wall mount
	(no direct sunlight)
EMC immunity of interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-4



Antenna Accessories

Self-adhesive antenna







Magnetic foot antenna



Theft-proof combination antenna



Description			Item No.	Pack. Uni
Self-adhesive antenna with 2.5m cable and	GSM/UMTS/Bluetooth®/WLAN	Dimension: 117 mm x 12 mm	758-961	1
SMA straight plug	850/900/1800/1900/2100/2400 MHz	Cable length: 2.5 m		
		Cable type: RG174		
		Gain: 2.15 dBi		
		VSWR: <1.5		
		Connector: SMA straight plug		
Theft-proof antenna with 1m cable and SMA	GSM/UMTS	Dimension: 29 mm x 49 mm	758-962	1
straight plug	850/ 900/ 1800/ 1900/ 2100 MHz	Cable length: 1 m	730-702	ı
siraigiii piog	830/ 700/ 1800/ 1700/ 2100 MHZ	Cable type: RG174		
		Max. gain: 2.2 dBi		
		VSWR: <2.0		
		Connector: SMA straight plug		
		Commediate of the smaller plag		
Rod antenna with 1m cable and SMA straight	GSM/	Height: 298 mm	758-963	1
plug	850/900/1800/1900 MHz	Cable length: 1 m		
	, , ,	Cable type: RG58		
		Gain: 2.2 dBi		
		VSWR: <1.6		
		Connector: SMA straight plug		
Magnetic foot antenna with 2.5m cable and	GSM/ UMTS	Height: 88 mm	758-965	1
SMA straight plug	850/900/1800/1900/2100 MHz	Cable length: 2.5 m	750-705	
omir sinaigiii piog	000, 700, 1000, 1700, 2100 11112	Cable type: RG174		
		Gain: 2.2 dBi		
		VSWR: <2.0		
		Connector: SMA straight plug		
The filter and shoe	CCAA / LINATC	Dimension: 29 mm x 52 mm	7500//	1
Theft-proof combination antenna with 2.5m	GSM/ UMTS		758-966	ı
cable and SMA straight plugs	850/900/1800/1900/2100 MHz additional GPS antenna connection	Cable length: 2.5 m Cable type: RG174		
	additional Gr3 anienna connection	Max. gain: 2.0 dBi		
		/мах. gain: 2.0 аы VSWR: <2.0		
		Connector: SMA straight plug		

Adaptor 758-964



Adaptor 758-968



Cable, SMA socket/SMA plug



Antenna splitter



RF lighting protector



Description		Item No.	Pack. Unit
Adaptor, FME plug to SMA plug	GSM/UMTS/Bluetooth®/WLAN	758-964	1
Adaptor, FME socket to SMA socket	GSM/UMTS/Bluetooth®/WLAN	758-967	50
Adaptor, SMA plug to SMA plug	GSM/UMTS/Bluetooth®/WLAN	758-968	1
Cable with SMA socket and SMA plug, 1 m long, H155 type	GSM/UMTS/Bluetooth®/WLAN	758-970/000-100	1
Cable with SMA socket and SMA plug, 3 m long, H155 type	GSM/UMTS/Bluetooth®/WLAN	758-970/000-300	1
Cable with SMA socket and SMA plug, 5 m long, H155 type	GSM/UMTS/Bluetooth®/WLAN	758-970/000-500	1
Cable with SMA socket and SMA plug, 10 m long, H155 type	GSM/UMTS/Bluetooth®/WLAN	758-970/000-1000	1
Antenna splitter with 3 SMA sockets	GSM/UMTS/Bluetooth®/WLAN	758-971	1
RF lighting protector, SMA socket to SMA socket	GSM/UMTS/Bluetooth®/WLAN	758-969	1

USB adapter

Serial cable, crossed





Description		Item No.	Pack. Unit
USB adapter with 1 m connection cable		761-9005	1
Serial cable, crossed	D-sub 9-pin plug on both ends, 30 cm cable length	761-9011	1

Battery



Description		Item No.	Pack. Unit
Battery	12 VDC 1.2 Ah lead-acid	761-9008	1
Angled mounting carrier for 761-9008 Battery		761-9010	1

