Ositrack® RFID
Radio frequency identification
13.56 MHz

Operating principle
RFID (Radio Frequency IDentification) is a term generally used for radio frequency identification systems. These frequencies range between 50 kHz and 2.5 GHz. The most widely used is 13.56 MHz.

The Ositrack® RFID identification system enables object traceability, identification (tracking) functions to be performed and access control.
The information is stored in an accessible memory using a simple radio frequency link. This memory is in the form of an electronic tag, which contains an antenna and an integrated circuit.
The tag contains the information associated with the object to which it is fixed. When a tag passes through the field generated by the reader/station, it detects the signal and exchanges the data (read or write) between its memory and the reader/station.
The applications are numerous:
- Logistics: dispatch, receipt, transit, etc.
- Tracking and sorting of baggage
- Automatic tolls
- Access control, etc.

The Ositrack® RFID system is also suited to difficult environments (humidity, temperature, mechanical shock, vibration, dust, etc.).

Ositrack® RFID
Ositrack® is open to the majority of ISO 18000-3, ISO 15693 and ISO 14443 electronic tags.
Ositrack® integrates Modbus RTU, Uni-Telway and Modbus TCP/IP protocols.

The Ositrack® RFID offer comprises:
- 2 models of 13.56 MHz compact stations (read/write)
- 6 models of 13.56 MHz electronic tags
- 1 portable RFID diagnostics terminal
- 2 models of network connection boxes
- connection and mounting accessories.

Setting-up
Ositrack® compact stations are simple to set-up:
- Integrated RFID and network functions
- No programming
- Automatic detection of the RFID electronic tags (read or write)
- Automatic setting of the communication parameters (speed, format, parity, protocol, etc.)
- Configuration of the network address (1 to 15) using badge included with the station
- Read/write compatibility with the majority of 13.56 MHz tags on the market
- Low sensitivity to metal environments.

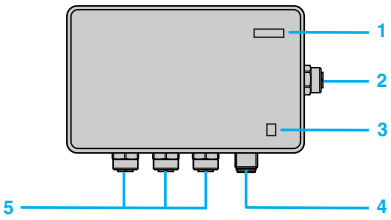
Installation
The Ositrack® stations are compact and robust. They can easily be integrated in flexible manufacturing production lines:
- quick connection using M12 connector
- clip-on mounting.

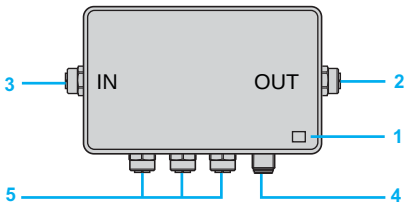
Ositrack® compact stations can be connected on Ethernet, Modbus and Uni-Telway networks and bus via a connection box.

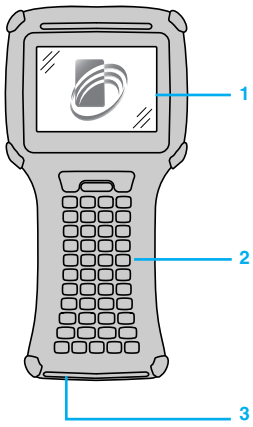
Description
Ositrack® 13.56 MHz compact stations *(1)*
Stations XGC S enable the reading and writing of 13.56 MHz RFID tags that comply to standards ISO 15693 and ISO 14443 A and B.
2 models of Ositrack® compact stations are available:
- Format C compact station: Station XGC S490●●●●:
- Dimensions (mm): 40 x 40 x 15
- Nominal sensing distance: 18 to 70 mm depending on associated tag
- Format D compact station: Station XGC S890●●●●:
- Dimensions (mm): 80 x 80 x 26
- Nominal sensing distance: 20 to 100 mm depending on associated tag.

(1) For station and tag selection according to passing speeds, see page 30620-EN_Ver3.0/14.

Ositrack® RFID
Radio frequency identification
13.56 MHz







Description (continued)

Ositrack® RFID electronic tags *(1)*

■ **Electronic tags XGH B offer the following advantages:**
- □ fast access to the data,
- □ wide range of memory capacities,
- □ access security to the contents,
- □ operation without battery,
- □ positioning flexibility,
- □ and protection suited to the environmental conditions.

The nominal transmission distance is 18 to 100 mm depending on the model of the tag and associated compact station.

Connection boxes

Two types of quick connection boxes are available:
- an Ositrack® Ethernet box **XGS Z33ETH** for Ethernet network
- an Ositrack® tap-off box **TCS AMT31FP** for Modbus and Uni-Telway communication bus.

■ **Ethernet box XGS Z33ETH**

The Ositrack® Ethernet box **XGS Z33ETH** enables connection of stations XGC S to the Ethernet network (Modbus TCP/IP protocol).
It enables, from a PLC or PC, access to the functions of stations XGC S:
- □ reading/writing of tags,
- □ control and checking,
- □ monitoring,
- □ diagnostics.

The Ethernet box **XGS Z33ETH** is fitted with M12 connectors. It is used to connect the supply, the Ethernet network and 1 to 3 stations XGC S.
It comprises a sealed metal enclosure fitted with:
1 Ethernet network signalling LEDs
2 One Ethernet M12 type, D coding, socket
3 One green LED indicator: power on
4 One power supply M12 type 4-pin male socket
5 3 x M12 type female, A coding, sockets for connecting 1 to 3 stations XGC S.

■ **Tap-off box TCS AMT31FP**

Tap-off box **TCS AMT31FP** enables stations XGC S to be connected to Modbus or Uni-Telway communication bus.
The tap-off box **TCS AMT31FP** is fitted with M12 connectors. It is used to connect the supply, the communication bus (Modbus) and 1 to 3 stations XGC S.
It comprises a sealed metal enclosure fitted with:
1 One green LED indicator: power on
2 One network output M12 type 5-pin female, A coding, socket
3 One network input M12 type 5-pin male, A coding, socket
4 One power supply M12 type 4-pin male, A coding, socket
5 3 x M12 type female, A coding, sockets for connecting 1 to 3 compact stations XGC S.

Portable 13.56 MHz RFID diagnostics terminal

The portable terminal **XGS TP401** is designed for use in industrial applications. Its hardened structure combined with its numerous functions make it suitable for applications in arduous environments. It operates on Microsoft® Windows CE.NET Professional® version 4.2. The 13.56 MHz RFID function and Ositrack® software installed on the portable terminal enable maintenance operations to be performed on the electronic tags and compact stations.
Transfer of data to a PC is made via an RS 232 communication port.
The portable terminal **XGS TP401** comprises a:
1 Colour touchscreen
2 Keypad (45 keys)
3 RS 232 port

The following accessories are included with the terminal:
- a PC connecting cable,
- Ositrack® software (installed),
- a battery,
- a universal battery charger,
- 3 styluses,
- a protective cover,
- a user guide.

(1) For station and tag selection according to passing speeds, see page 30620-EN_Ver3.0/14.

Ositrack® RFID
Radio frequency identification
13.56 MHz

Characteristics of Ositrack® compact stations

Station type			XGC S4901201	XGC S8901201
Certifications			UL, FCC part 15c	
Conformity to standards			CE, EN 301489-1, EN 301489-3, ETS 300330-1 and ETS 300330-2	
Ambient air temperature	For operation	**°C**	- 25…+ 55	
	For storage	**°C**	- 40…+ 85	
Degree of protection	Conforming to IEC 60529		IP 65	
Vibration resistance	Conforming to EN 60068.2.27		2 mm from 5 to 29.5 Hz / 7 gn from 29.5 to 150 Hz	
Shock resistance	Conforming to EN 60068.2.6		30 g/11 ms	
	Conforming to EN 50102		Degree IK 02	
Resistance to interference	Conforming to IEC 61000		Resistance to electrostatic discharge, radiated electromagnetic fields, fast transients, electrical surges, conducted and induced interference and network frequency magnetic fields.	
Dimensions, W x H x D		**mm**	C format: 40 x 40 x 15	D format: 80 x 80 x 26
RFID frequency		**MHz**	13.56	
Type of associated tag			ISO 15693 and ISO 14443 standard tags. Automatic detection of the type of tag	
Nominal sensing distance	Depending on associated tag	**mm**	18 to 70	20 to 100
Nominal supply voltage		**V**	⎓ 24 PELV (Protective Extra Low Voltage)	
Supply voltage limits (including ripple)		**V**	⎓ 19.2…29	
Consumption		**mA**	< 60	
Serial links	Type		RS 485	
	Protocol		Modbus RTU or Uni-Telway	
	Speed	**Bauds**	9600…115 200 (automatic detection)	
Display			1 dual colour LED for the communication network: Modbus/Uni-Telway 1 dual colour LED for the RFID communication (Presence of tag / Station/tag dialogue)	
Connections			M12, 5-pin male, shielded connector. Only for connection to the communication network and the supply.	
Tightening torque	Screws	**Nm**	< 1	< 3

Characteristics of electronic tags

Tag type			XGH B444345	XGH B445345	XGH B90E340	XGH B320345	XGH B221346	XGH B211345
Ambient air temperature	For operation	**°C**	- 25…+ 70		- 25…+ 50	- 25…+ 70		
	For storage	**°C**	- 40…+ 85		- 40…+ 55	- 40…+ 85		
Degree of protection			IP 68		IP 65		IP 68	
Standard supported			ISO 14443		ISO 15693			
Vibration resistance	Conforming to EN 60068.2.27		2 mm from 5 to 29.5 Hz / 7 gn from 29.5 to 150 Hz					
Shock resistance	Conforming to EN 60068.2.6		30 g/11 ms					
	Conforming to EN 50102		Degree IK 02					
Dimensions		**mm**	40 x 40 x 15	40 x 40 x 15	54 x 85.5 x 1	Ø 30 x 3	26 x 26 x 13	M18 x 1 x 12
Housing material			PBT	PBT	PVC	PC	PBT	PBT
Fixing method			Screw or clip	Screw or clip	–	Screw	Screw or clip	Screw in
Memory capacity		**bytes**	3 408	13 632	256	112	256	
Type of memory			EEPROM					
Type of operation			Read/Write					
Type of associated station			XGC S●●●●●●●					
Nominal sensing distance (Read/Write)	With station XGC S49	**mm**	33	30	70	48	40	18
	With station XGC S89	**mm**	48	40	100	65	55	20
Number of read cycles			Unlimited					
Number of write cycles	Guaranteed minimum		100 000 per data bit throughout the temperature range					
	At 30 °C		2.5 million (typical value)					
Read time		**ms**	9.25 + 0.375 x n *(1)*	16.25 + 0.375 x n *(1)*	12 + 0.825 x n *(1)*			
Write time		**ms**	13 + 0.8 x n *(2)*	20 + 0.8 x n *(2)*	20 + 11.8 x n *(2)*	12 + 5.6 x n *(2)*	20 + 11.8 x n *(2)*	19 + 4.1 x n *(2)*
Data retention time			10 years					
Mounting on metal support			Yes *(2)*		No		Yes *(2)*	No

(1) n = number of 16-bit words.
(2) Installation precautions: see pages 30620-EN_Ver3.0/14 and 30620-EN_Ver3.0/15.

Characteristics of connection boxes

Connection box type			Tap-off box TCS AMT31FP	Ethernet box XGS Z33ETH
Certifications			UL	
Conformity to standards			CE	
Ambient air temperature	For operation	**°C**	- 25…+ 55	0...+ 50
	For storage	**°C**	- 40…+ 85	- 40...+ 66
Relative humidity		**RH**	30...95% without condensation	
Degree of protection			IP 65	
Supply voltage		**V**	⎓ 24 PELV (limits 19.2 V...29 V). M12, 4-pin male, A coding, connector	
Consumption (connection box only)		**W**	–	< 1
Station connection			M12 5-pin female, A coding, connector	
Electromagnetic interference	Conforming to IEC 61000		Level 3	
	Conforming to EN 55022		Class B	
LED display			Power on (green)	- Ethernet network activity (RUN, green) - Collision detection (COL, red) - Diagnostics (STS, yellow) - Fault (Err, red) - Power on (green)
Transparent Ready Services	Class		–	A10
	Basic Web server		–	Available later
	Basic Ethernet TCP/IP communication service		–	Modbus messaging (read/write of words)
Ethernet connection	Physical interface		–	10 BASE-T/100BASE-TX
	Transfer rate		–	10/100 Mbps
	Medium		–	Ethernet cable with M12 connection, reference TCS ECL1M1●S2 (Telemecanique ConneXium range)

Characteristics of portable 13.56 MHz RFID diagnostics terminal

Conformity to standards			CE, FCC class A, Part 15225
Ambient air temperature	For operation	**°C**	0 ... + 50
	For storage	**°C**	- 25... + 55
Relative humidity		**RH**	5...95% without condensation
Degree of protection			IP 65
Supply voltage			7.2 V NiMH type rechargeable battery (included with terminal) External: ⎓ 11-18 V
Operating time			4 hours continuous operation (tag dialogue)
Operating system			Microsoft Windows CE.NET Professional® version 4.2
Processor			Intel technology Xscale PXA255 CPU, 400 MHz
Memory	RAM		SDRAM 64 Mb
	Storage		Internal compact Flash: 64 Mb standard (16 Mb reserved for operating system), expandable to 128 Mb + Slot for compact Flash card
Display	Screen		Colour touchscreen: 72 mm x 54 mm, QVGA TFT
	Resolution		320 x 240 pixels
Keypad			45 booted keys
Signalling			5 LEDs + 1 charging LED

Ositrack® RFID
Radio frequency identification
13.56 MHz

105909

XGC S4901201

105914

XGH B90E340

105910

XGH B44●345

105911

XGH B221346

105912

XGH B211345

105913

XGH B320345

Compact stations, 13.56 MHz

Description	Protocols	Dimensions mm	Reference	Weight kg
Compact station C format *(1)* M12 male connector on flying lead	Modbus RTU and Uni-Telway	40 x 40 x 15	**XGC S4901201**	0.057
Compact station D format *(1)* M12 male connector on flying lead	Modbus RTU and Uni-Telway	80 x 80 x 26	**XGC S8901201**	0.257

Electronic tags

Tag type	Nominal sensing dist. according to station		Dimensions mm	Sold in lots of	Unit reference	Weight kg
	XGC S49●	XGC S89●				
C format 3 408 bytes	33 mm	48 mm	40 x 40 x 15	–	**XGH B444345**	0.031
C format 13 632 bytes	30 mm	40 mm	40 x 40 x 15	–	**XGH B445345**	0.031
ISO badge *(2)* 256 bytes	70 mm	100 mm	54 x 85.5 x 1	10	**XGH B90E340**	0.005
Disc 112 bytes	48 mm	65 mm	Ø 30 x 3	5	**XGH B320345**	0.005
E format 256 bytes	40 mm	55 mm	26 x 26 x 13	1	**XGH B221346**	0.025
Cylindrical 256 bytes	18 mm	20 mm	M18 x 1 x 12	5	**XGH B211345**	0.020

(1) Configuration badge XGS ZCNF01 included with station - installation guide to be ordered separately (reference DIA4ED3051001).

(2) Customised versions on request.

Ositrack® RFID
Radio frequency identification 13.56 MHz

105915

TCS AMT31FP

Connection boxes

Description	For use with	Supply voltage	Reference	Weight kg
Ethernet box 3-channel Integrated Ethernet port (10/100 Mbps) Modbus TCP/IP protocol Class A10	Compact stations XGC S49● and XGC S89●	⎓ 24 V	**XGS Z33ETH**	1.060
Tap-off box 3-channel Modbus and Uni-Telway	Compact stations XGC S49● and XGC S89●	⎓ 24 V	**TCS AMT31FP**	1.060

105918

XGS TP401

PF540455

XGS TP41CH

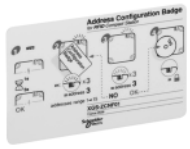
Ositrack® terminal and accessories

Description	Application	Reference	Weight kg
Portable 13.56 MHz RFID diagnostics terminal *(1)*	Read/write operations on electronic tags and diagnostics on compact stations Operating system: Microsoft Windows CE.NET Professional® version 4.2	**XGS TP401**	0.943
Battery pack charger	Portable terminal	**XGS TP41CH**	0.675
Battery, 7.2 V NiMH	Portable terminal	**XGS TP41BA**	0.168
Compact Flash memory expansion	Portable terminal Capacity = 128 Mb	**XBT ZGM128**	0.050

105920

XGS TP41BA

105921



XGS ZCNF01

Configuration badge (replacement)

Description	Application	Reference	Weight kg
Badge	Configuration of station addresses	**XGS ZCNF01**	0.005

Ositrack® documentation

Description	Reference	Weight kg
Ositrack® compact stations guide	**DIA4ED3051001**	0.130

(1) Ositrack® software (installed), universal battery charger, PC connecting cable, 3 styluses, protective cover, battery and user guide included with terminal.

Ositrack® RFID
Radio frequency identification 13.56 MHz

105925

TCS MCN1FQM2

105927

TCS MCN1F9M2P

105924

TCS ECL1M3M●●●

535803

TCS ESU051F0

535625

TCS EAAF11F13F00

540456

TCS CTN011M11F

Connection accessories

Description	Application	Length m	Reference	Weight kg
Modbus network connection accessories				
Modbus shielded connecting cable, black, IP 67 M12 connectors, male/female, A coding *(1)*	RS485 connection between a compact station and a tap-off box TCS AMT31FP or between 2 tap-off boxes	1	**TCS MCN1M1F1**	0.080
		2	**TCS MCN1M1F2**	0.115
		5	**TCS MCN1M1F5**	0.270
		10	**TCS MCN1M1F10**	0.520
Modbus shielded pre-wired M12 connector, IP 67, female/bare wires, A coding *(1)*	Connection between tap-off box TCS AMT31FP and Modbus/Uni-Telway network (TSX SCA50)	2	**TCS MCN1F2**	0.115
		5	**TCS MCN1F5**	0.270
		10	**TCS MCN1F10**	0.520
Modbus shielded connecting cable, black, M12/SUB-D15, A coding	Connection between tap-off box TCS AMT31FP and Modbus/Uni-Telway network (TSX SCA62)	2	**TCS MCN1FQM2**	0.270
Modbus shielded connecting cable, black, M12/Mini-DIN 8-way, A coding	Modbus connection between tap-off box TCS AMT31FP and a PLC (Twido...)	2	**TCS MCN1F9M2P**	0.350
Modbus SL serial link cable (Shielded dual twisted pair RS485 main cables)	Modbus SL serial link	100	**TSX CSA100**	5.680
		200	**TSX CSA200**	10.920
		500	**TSX CSA500**	30.000
Ethernet connection accessories				
Ethernet connecting cable, green, M12 ConneXium *(2)* **2 M12 4-pin connectors, D coding**	Connection between the Ethernet box XGS Z33ETH and an M12 Ethernet switch TCS ESU051F0	1	**TCS ECL1M1M1S2**	0.080
		2	**TCS ECL1M1M2S2**	0.115
		5	**TCS ECL1M1M5S2**	0.270
		10	**TCS ECL1M1M10S2**	0.520
Ethernet shielded connecting cable, ConneXium *(2)*, **M12 male D coding/RJ45, 4-pin**	Connection between the Ethernet box and the Ethernet network	1	**TCS ECL1M3M1S2**	0.075
		3	**TCS ECL1M3M3S2**	0.110
		5	**TCS ECL1M3M5S2**	0.265
		10	**TCS ECL1M3M10S2**	0.515
		40	**TCS ECL1M3M40S2**	2.000
M12 Ethernet switch IP 67, ConneXium *(2)*	–	–	**TCS ESU051F0**	0.210
Adaptor M12 female/RJ45	Ethernet connection	–	**TCS EAAF11F13F00**	–
Other connection accessories				
Pre-wired M12 4-pin female connector, A coding *(1)*	⎓ 24 V supply to connection boxes XGS Z33ETH and TCS AMT31FP	2	**XGS Z08L2**	0.115
		5	**XGS Z08L5**	0.270
		10	**XGS Z08L10**	0.520
Shielded M12 5-pin female, A coding, connector	–	–	**FTX CN12F5**	0.050
Shielded M12 5-pin male, A coding, connector	–	–	**FTX CN12M5**	0.050
Network "T" connector, M12, 1 male/2 female 5-pin, A coding	RS485 network	–	**TCS CTN011M11F**	0.035
Supply connector, screw terminals, M12 straight, A coding	–	–	**XZC C12FDM40B**	0.020
Protective cap (Sold in lots of 10)	M12 female connector	–	**FTX CM12B**	0.100
Network terminator, M12 male, 120 Ω	–	–	**FTX CNTL12**	0.010

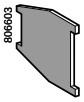
(1) Holder for identification legend included with product.
(2) Other ConneXium connection accessories: please refer to www.telemecanique.com.

Ositrack® RFID
Radio frequency identification
13.56 MHz

XGS Z3P

Mounting accessories

Description	For use with	Reference	Weight kg
"Clip-on" 90° mounting bracket	C format station: XGC S4901201 C format tags: XGH B44●345	**XSZ BC90**	0.060
	Tags XGH B221346	**XSZ BE90**	0.060
"Clip-on" mounting plate	C format station: XGC S4901201 C format tags: XGH B44●345	**XSZ BC00**	0.025
	Tags XGH B221346	**XSZ BE00**	0.025
Mounting plate	Connection boxes TCS AMT31FP and XGS Z33ETH	**XGS Z3P**	0.195



XGS Z05

Complementary accessories

Description	Sold in lots of	Unit reference	Weight kg
Key for screwing in/unscrewing Ø 18 mm cylindrical tag	5	**XGS Z05**	0.011
Identification legend for 23 x 4 mm connecting cables	200	**XGS Z08MKW**	0.056

ABL 8MEM24003

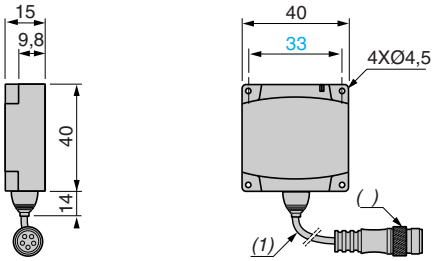
Power supplies

Description	Output voltage	Nominal power	Nominal current	Reference	Weight
	⎓ V	W	A		kg
Regulated power supply 100/240 V	24	7	3	**ABL8 MEM24003**	0.180
		30	1.2	**ABL8 MEM24012**	0.520

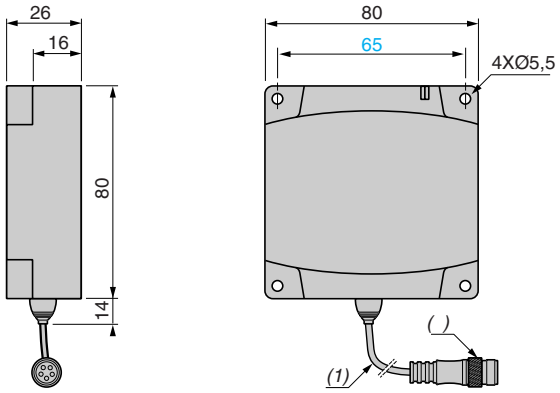
Ositrack® RFID
Radio frequency identification
13.56 MHz

Compact stations

XGC S4901201



XGC S8901201

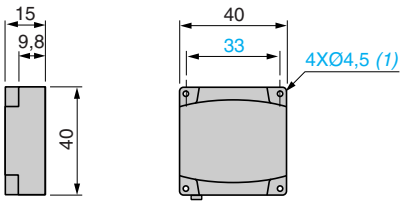


(1) For CHC type screws.
(2) Shielded cable (length: 20 cm).
(3) M12 5-pin male, A coding, shielded connector.

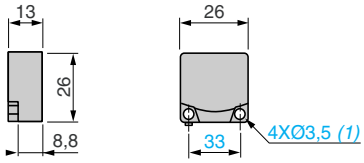
Read/write electronic tags

Square format tags

XGH B44●345



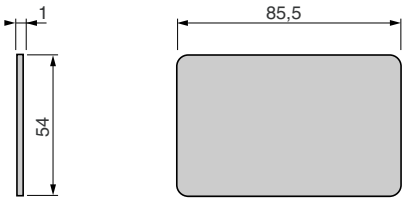
XGH B221346



(1) For CHC type screws.

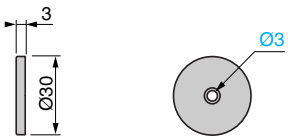
Rectangular format tags

XGH B90E340

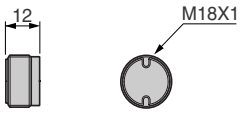


Cylindrical format tags

XGH B320345

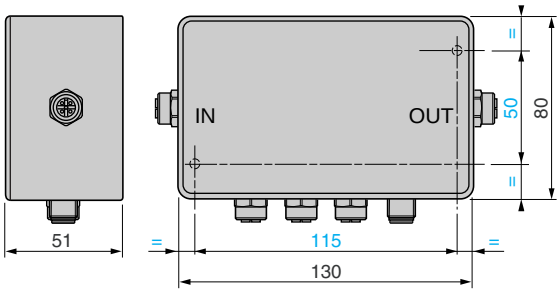


XGH B211345

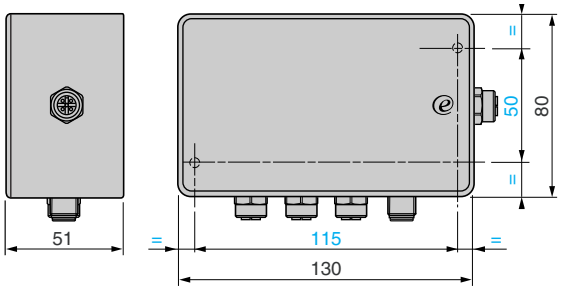


Connection boxes *(1)*

TCS AMT31FP

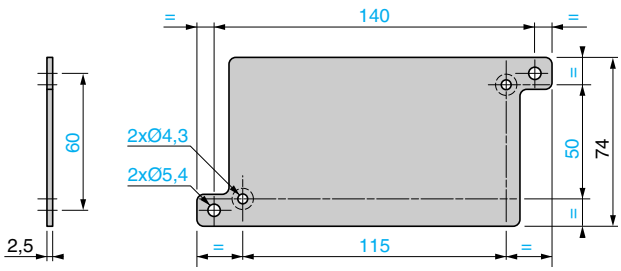


XGS Z33ETH



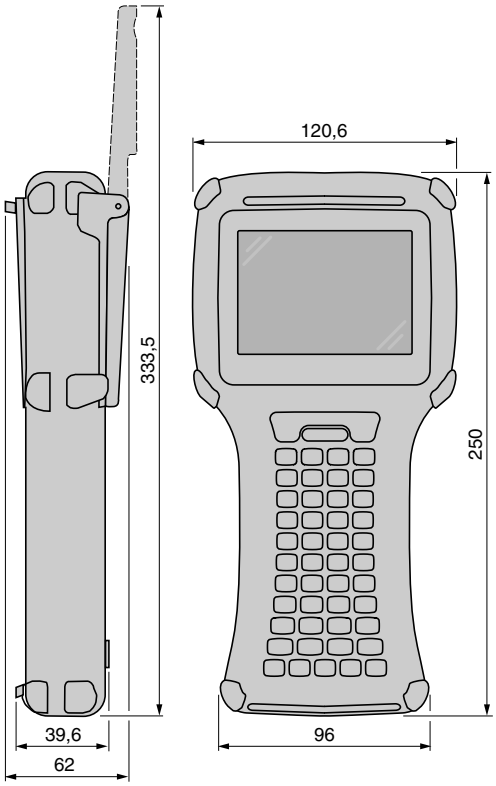
(1) Allow a 110 mm clearance zone for connecting the cables.

Mounting plate XGS Z3P



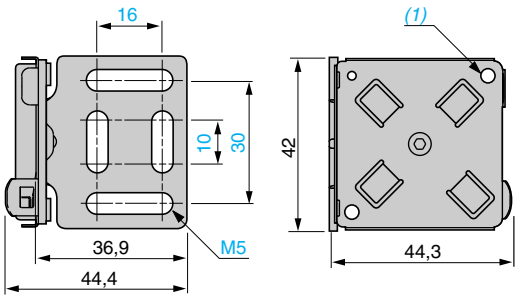
Ositrack® RFID portable diagnostics terminal

XGS TP401



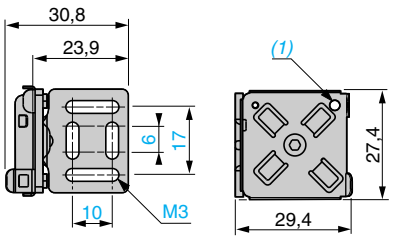
Mounting brackets

XSZ BC90



(1) Four M4 x 14 screws (included).

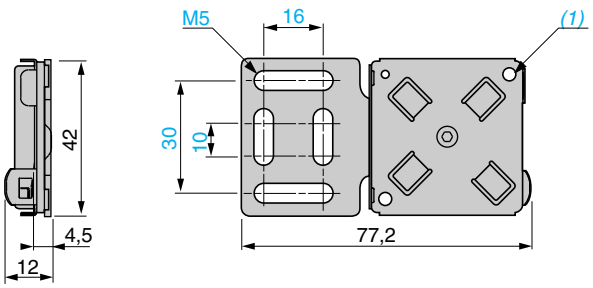
XSZ BE90



(1) Two M3 x 12 screws (included).

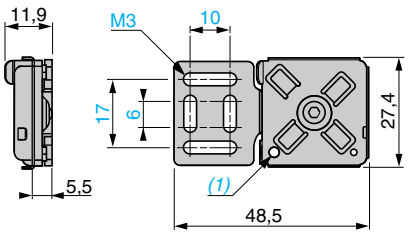
Mounting plates

XSZ BC00



(1) Four M4 x 14 screws (included).

XSZ BE00

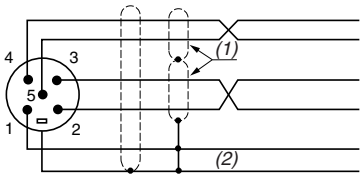


(1) Two M3 x 12 screws (included).

Ositrack® RFID
Radio frequency identification
13.56 MHz

Modbus connections

Stations XGC S●901201



Pin n°	Station - Modbus signal
1	Drain (Modbus-SHLD)
2	⎓ + 24 V
3	0 V/Modbus-GND
4	D0
5	D1
Connector casing	Shielding

(1) Shielding per pair.
(2) General cable shielding.

Tap-off box TCS AMT31FP

Socket to station cabling

Pin n°	Signal
1 –	Drain (Modbus-SHLD)
2 Red	⎓ + 24 V
3 Black	0 V/Modbus-GND
4 White	D0
5 Blue	D1
Connector casing	Shielding

Socket to power supply cabling

Pin n°	Signal
1	⎓ + 24 V
2	⎓ + 24 V
3	⎓ 0 V
4	⎓ 0 V

Socket to another connection box cabling

Pin n°	Signal
1	Drain (Modbus-SHLD)
2	–
3	0 V/Modbus-GND
4	D0
5	D1
Connector casing	Shielding

Socket to industrial PLC cabling

Pin n°	Signal
1	Drain (Modbus-SHLD)
2	–
3	0 V/Modbus-GND
4	D0
5	D1
Connector casing	Shielding

Cable connections

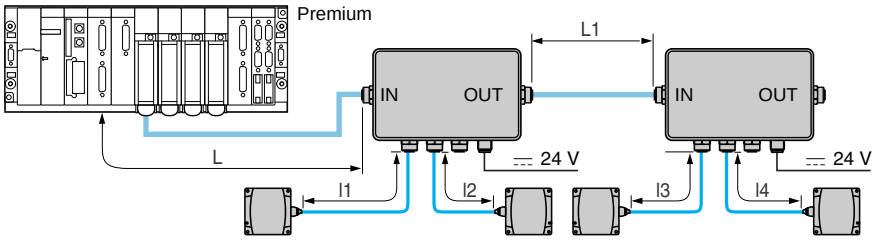
TCS MCN1F●

Pin n°	Signal
1 –	Drain (Modbus-SHLD)
2 Red	⎓ + 24 V
3 Black	0 V/Modbus-GND
4 White	D0
5 Blue	D1
Connector casing	Shielding

XGS Z08L

Pin n°	Signal
1 Brown	⎓ + 24 V
2 White	⎓ + 24 V
3 Blue	⎓ 0 V
4 Black	⎓ 0 V

Mounting example for Modbus network

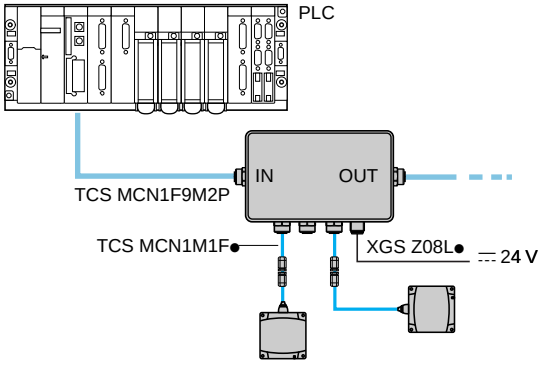


Maximum length of bus
The maximum length of the bus (L + L1 + l4) depends on the speed of the network:
- 9600 bauds: 1000 m,
- 19 200 bauds: 500 m.

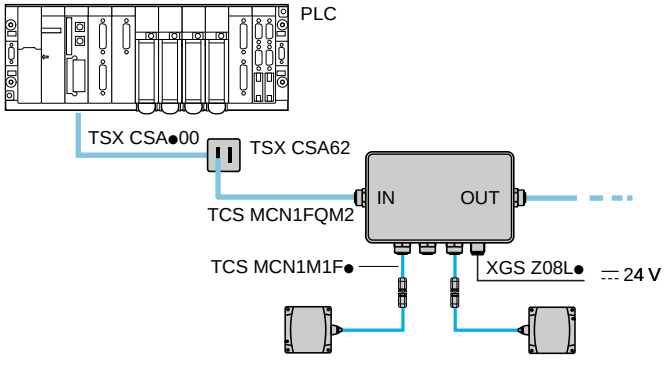
Maximum length of tap-offs:
l1, l2 and l3: 10 m.

Example of connection to a Telemecanique PLC

Direct connection



Connection via a TSX SCA62



Ethernet connection

Ethernet box XGS Z33ETH

Socket to station cabling

Pin n°	Signal
1 –	Drain (Modbus-SHLD)
2 Red	⎓ + 24 V
3 Black	0 V/Modbus-GND
4 White	D0
5 Blue	D1
Connector casing	Shielding

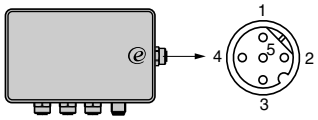
Socket to power supply cabling

Pin n°	Signal
1	⎓ + 24 V
2	⎓ + 24 V
3	⎓ 0 V
4	⎓ 0 V

Cable XGS Z08L connections

Pin n°	Signal
1 Brown	⎓ + 24 V
2 White	⎓ + 24 V
3 Blue	⎓ 0 V
4 Black	⎓ 0 V

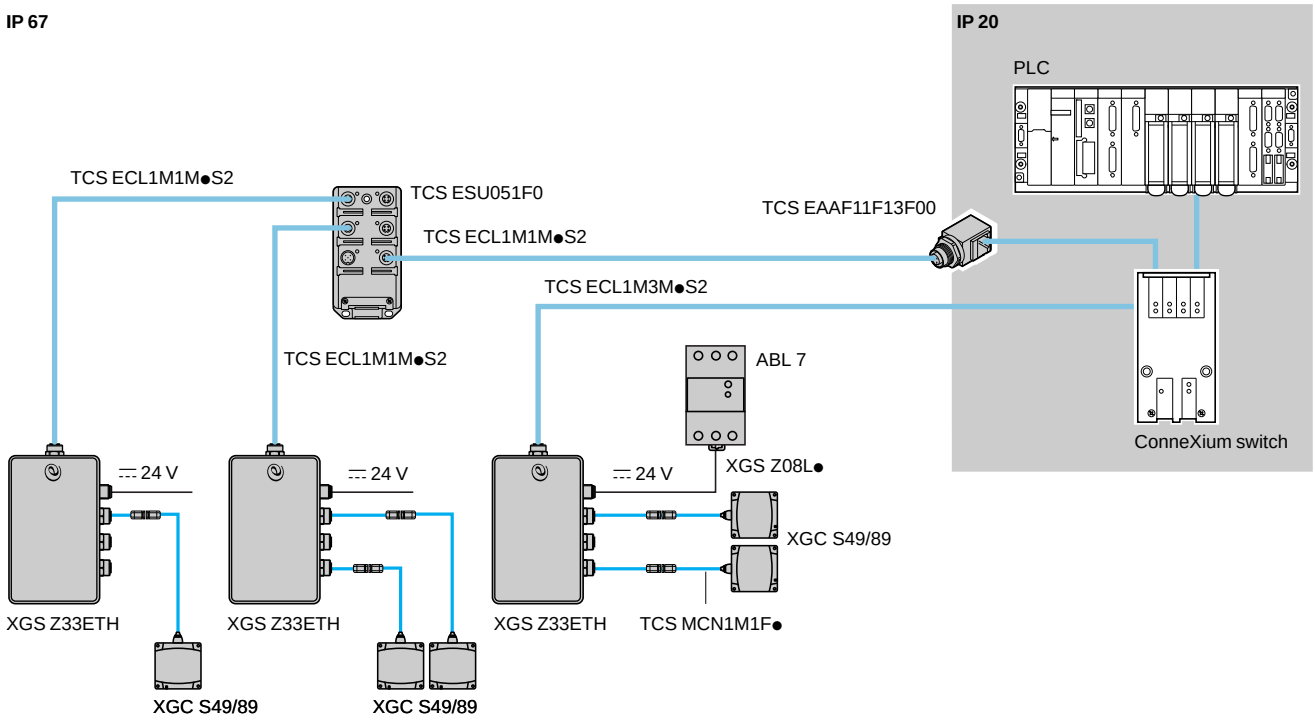
Ethernet socket connection



Cable TCS ECL1M3M●●S2

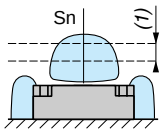
M12	Signal		Signal	RJ45
1	TD +		TD +	1
3	TD –		TD –	2
2	RD +		RD +	3
4	RD –		RD –	6

Connection example on Ethernet Modbus TCP/IP network



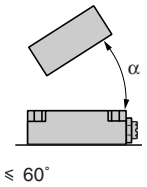
Ositrack® RFID
Radio frequency identification
13.56 MHz

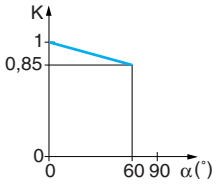
Detection zones of compact stations



(1) Recommended crossing zone: between 0.4 and 0.8 Sn.

Angular positioning between station and tag

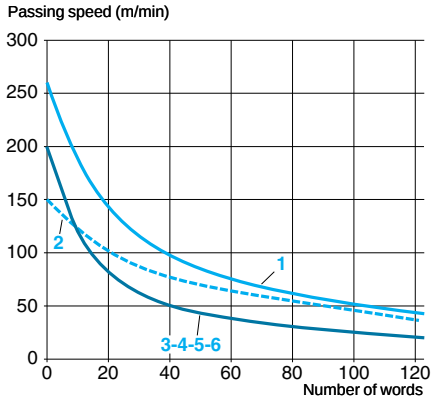




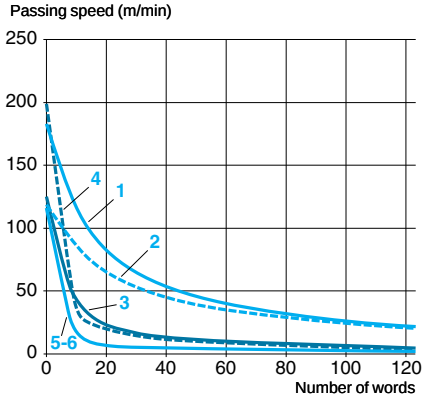
K = correction coefficient to be applied to the nominal sensing distance.
Read distance = nominal sensing distance x K.

Station and tag selection according to passing speeds

Read time with station XGC S49●●●●●

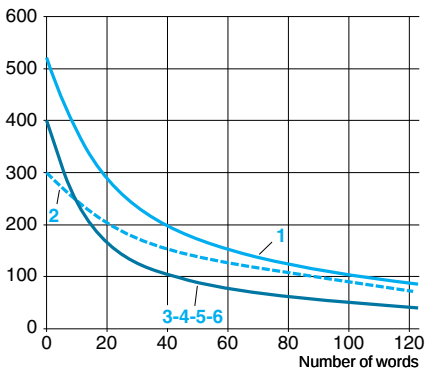


Write time with station XGC S49●●●●●

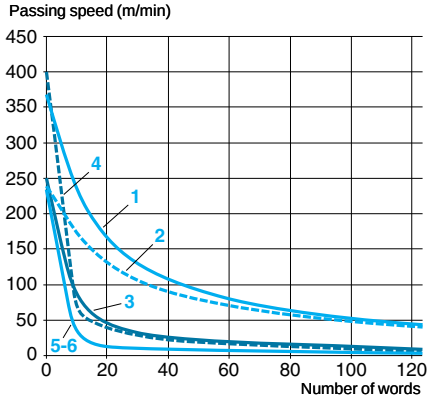


1 XGH B444345
2 XGH B445345
3 XGH B211345
4 XGH B320345
5 XGH B90E340
6 XGH B221346

Read time with station XGC S89●●●●●



Write time with station XGC S89●●●●

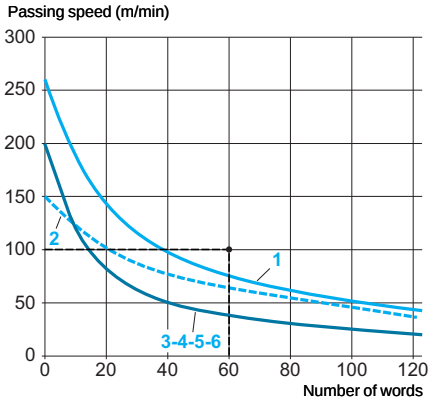


1 XGH B444345
2 XGH B445345
3 XGH B211345
4 XGH B320345
5 XGH B90E340
6 XGH B221346

Application example

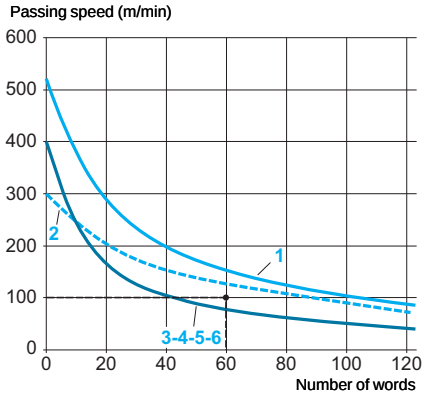
Read time with station XGC S49●●●●●

On an assembly line, the object passing speed is 100 m/min. The application requires that 60 words be read.



Station XGC S49 cannot be used; no Ositrack® tag can be read under these conditions (Speed/Number of words).

Read time with station XGC S89●●●●●

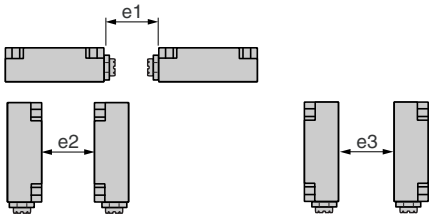


Station XGC S89 can be used; only tags XGH B444345 and XGH B445345 meet the requirements (Speed/Number of words).

Minimum mounting distances between system components

Distance between stations

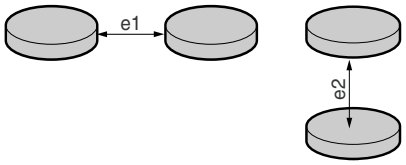
Minimum distance between 2 identical stations in relation to their positioning and type of tag used (mm)



Tag	C format XGC S4 stations			D format XGC S8 stations		
	e1	e2	e3	e1	e2	e3
XGH B90E340	310	550	120	430	750	280
XGH B221346	200	320	100	280	530	260
XGH B320345	140	360	110	310	540	240
XGH B211345	210	180	60	200	370	170
XGH B444345	90	190	30	310	400	160
XGH B445345	110	170	30	310	380	160

Distance between tags

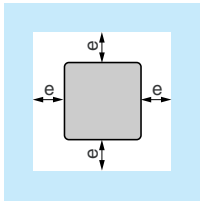
Minimum distance between 2 identical tags in relation to their positioning and type of station used (mm)



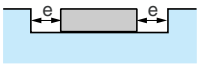
Tag	C format XGC S4 stations		D format XGC S8 stations	
	e1	e2	e1	e2
XGH B90E340	35	60	110	140
XGH B221346	50	10	120	50
XGH B320345	70	50	190	60
XGH B211345	40	10	120	20
XGH B444345	20	10	70	40
XGH B445345	10	10	60	10

Minimum permissible mounting distances in a metal structure

Stations XGC S49/S89 and Tags XGH B221346/B444345/B445345



e ≥ 20 mm.

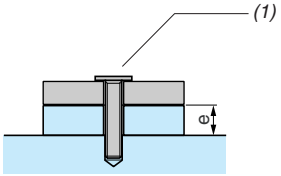


e ≥ 20 mm.

Tags XGH B90E340 and XGH B211345

No metal parts within 25 mm of the tag.

Tag XGH B320345



e ≥ 15 mm.

(1) Tightening torque ≤ 1 N.m.

Tags	Nominal sensing distance (mm)		Reduced sensing distance with presence of metal (mm)	
	XGC S49	XGC S89	XGC S49	XGC S89
XGH B90E340	70	100	58	80
XGH B221346	40	55	30	33
XGH B320345	48	65	45	56
XGH B211345	18	20	16	15
XGH B444345	33	48	28	34
XGH B445345	30	40	24	28