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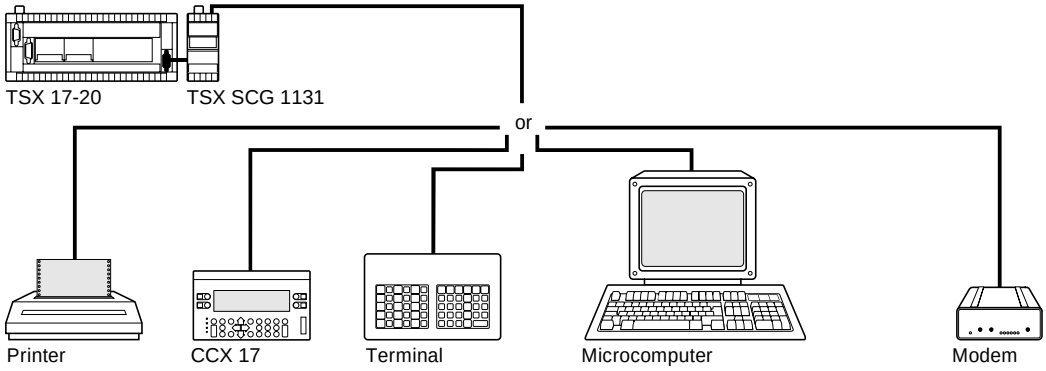
Find the *Schneider Electric / AEG / Telemecanique TSX172-4012* at our website: *Click HERE*

Serial communication and UNI-TELWAY bus link modules

Functions

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Asynchronous serial communication



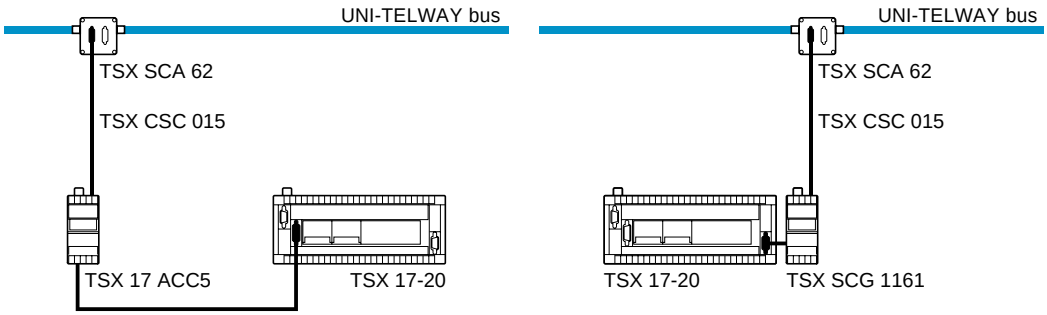
- **RS 232 C full-duplex link**

The TSX SCG 1131 module is used for the exchange of data between TSX 17-20 micro-PLCs (1) and any peripherals which have an RS 232 C serial link. This link, which is full-duplex character string type (simultaneous transmission and reception), enables asynchronous data exchanges of up to 30 bytes. The parameters of the transmission characteristics (speed, format, parity and number of stop bits) can be set by program.
5 m connecting cables are available for connection to a peripheral (TSX CBP 050) or a Modem (TSX CBN 050).

- **Communication using Modbus/Jbus protocol**

TSX SCG 1131/1161 modules use the Modbus/Jbus protocol, master or slave, for communication with certain supervisory computers or other devices. They can also operate in half-duplex character string mode.
Data tables are exchanged between the PLC and the module in the same way as in character string mode, and the module converts the data to the chosen communication protocol.

Connection to the UNI-TELWAY bus



The TSX 17-20 PLC can be connected to the UNI-TELWAY bus :

- Either via the TSX 17 ACC5 (2) adaptor module connected to the terminal port. In this case the micro-PLC is a slave station.
- Or via the TSX SCG 1161 (3) communication module, with the module acting as an extension of the I/O bus. In this case the micro-PLC can be a master or a slave station.

In both cases, the TSX 17-20 micro-PLC can act as a server or client simultaneously :

- Server : performs the service requested by the client and sends a confirmation after execution (the client accesses the micro-PLC system using UNI-TE requests).
- Client : initiates communication, asks a question (reads), transmits data (writes), or transmits an instruction RUN, STOP, etc (a text function block is used for sending requests to the server).

To make a tap link on the bus cable, use a UNI-TELWAY 2-channel subscriber socket type TSX SCA 62 connected to UNI-TELWAY adaptor type TSX 17 ACC 5 or to the TSX SCG 1161 module by means of a TSX CSC 015 connecting cable.
(1) Requires a TSX 17-20 micro-PLC fitted with a PL7-2 language cartridge : TSX P17 20 FC2/FD2.
(2) Requires a TSX 17-20 micro-PLC fitted with a PL7-2 language cartridge : TSX P17 20 FA/FB/FC2/FD2.
(2) Requires a TSX 17-20 micro-PLC fitted with a PL7-2 language cartridge : TSX P17 20 FC2/FD2.

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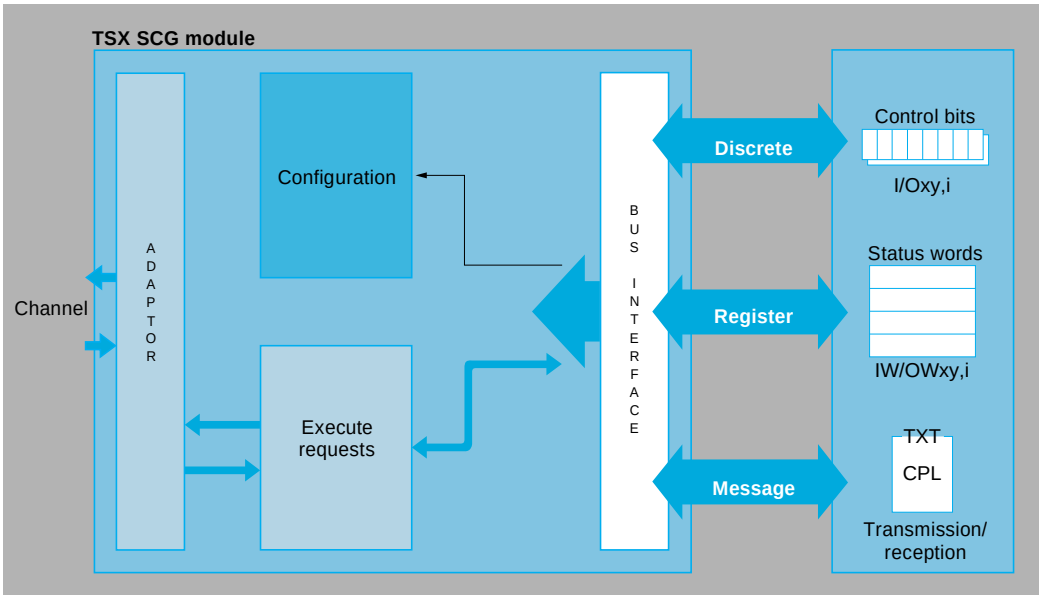
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Operation

Operation of the asynchronous serial communication module

The TSX SCG 1131 module has a single channel with a line adaptor and handles transmissions conforming to the usual standards :

- RS 232 C.
- RS 232 Modem.



Use of the TSX SCG 1131 module is simplified by using PL7-2 software, which sets the transmission characteristics.

The user must program this configuration at the start of an application. Configuration consists of sending a table of 8 words by programming a text function block. This table contains all the operating characteristics for the module channel in code form :

- Function : specifies the operating mode for the channel or the transmission protocol
- Number of bits : defines the format of the characters exchanged on the line
- Parity : defines the type of parity
- Number of Stop bits : used to separate a character
- Transmission speed : 150 to 19,200 bps
- Transmission echo : each time a character has been sent the module waits for an echo within a maximum time envelope called the time-out
- Reception echo : any character received by the module is retransmitted immediately on the line as an echo

Transmission/reception dialogue

Once it has been configured, a module can transmit and/or receive tables of up to 30 characters. For this, the user programs a text block and assigns it a request defining the type of data exchange to be performed :

- Transmission with or without time-out and with or without confirmation
- Transmission with no time-out or confirmation
- Reception with time-out
- Reception without confirmation
- Transmission/reception with or without time-out

Correct operation of the module can be monitored via status words. Command words can be used to switch to fallback positions or to halt an exchange which is in progress.

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Serial communication and UNI-TELWAY bus link modules

Descriptions, connections

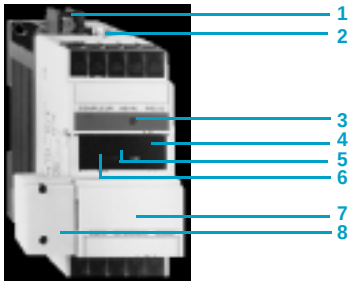
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Description of the TSX SCG 1131 module



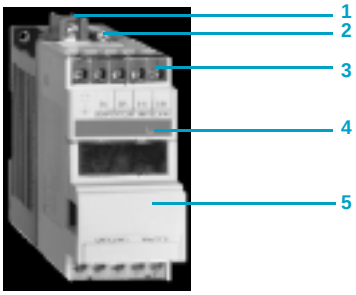
The TSX SCG 1131 module is in the form of a block comprising :
1 An earth terminal
2 A 15-way connector for connecting the asynchronous serial link
3 Two indicator lamps :
- a green RUN lamp indicating module powered up and operating
- a red I/O lamp indicating a module fault
4 A 9-way connector with cable for connection to preceding module (TSX 17 bus)
5 A 9-way connector with cable for connection to next module (TSX 17 bus)

Description of the TSX SCG 1161 module



The TSX SCG 1161 module which is used to connect the micro-PLC to the UNI-TELWAY bus comprises :
1 An earth terminal
2 A 15-way connector for connecting the TSX SCA 62 subscriber socket via a 1.50 m long TSX CSC 015 cable (for connection details see figures 1 and 2 below)
3 A green RUN lamp indicating module ready to operate.
4 A red I/O lamp indicating a module fault
5 A red ADR lamp indicating terminal block address fault or absence of terminal block
6 A red NET lamp which is lit on the master module when there is no slave on the bus, and on the slave module when there is no polling
It is also lit when the ADR lamp is lit
7 A 9-way connector with cable for connection to next module
8 A 9-way connector with cable for connection to preceding module

Description of the TSX 17 ACC 5 adaptor module



The TSX 17 ACC 5 adaptor module comprises :
1 An earth terminal
A 0.90 m cable is supplied to connect the PLC terminal port and the TSX 17 ACC 5 module
2 A 15-way connector for connection to the UNI-TELWAY bus via the TSX SCA 62 subscriber socket (for connection details see figures 1 and 2 below)
3 A screw terminal block for direct connection to the UNI-TELWAY bus (for connection details see figure 3 below)
4 A lamp indicating that the module is connected to the PLC terminal port
5 A 9-way connector for connection to the PLC terminal port

Connections to the UNI-TELWAY bus

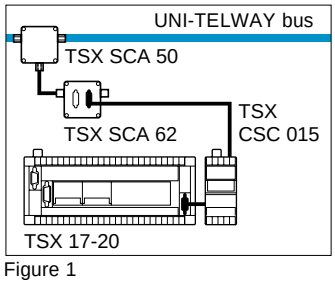


Figure 1

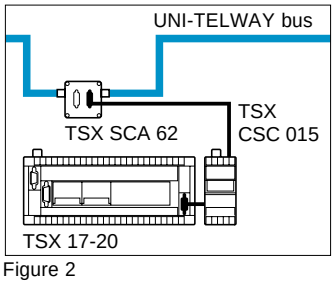


Figure 2

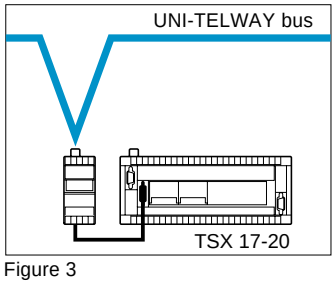


Figure 3

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Serial communication and UNI-TELWAY bus link modules

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Communication modules



TSX SCG 1161E

Description	Link	Reference (1)	Weight kg
Full-duplex character string Modbus/Jbus master/slave module	RS 232 C/Modem	**TSX SCG 1131E**	0.500
UNI-TELWAY bus Modbus/Jbus master/slave module	Master/slave station RS 485 isolated UNI-TELWAY	**TSX SCG 1161E**	0.500
UNI-TELWAY (2) **adaptor module**	Slave station with terminal port cable (supplied)	**TSX 17 ACC5E**	0.490



TSX 17 ACC 5E

Separate parts for communication modules

Description	Use	Length	Reference	Weight kg
Connecting cables	From a Modem to a TSX SCG 1131E module	5 m	**TSX CBN 050**	0.360
	From a peripheral to a TSX SCG 1131E module	5 m	**TSX CBP 050**	0.360

Accessories for UNI-TELWAY bus



TSX SCA 50

Description	Use	Length	Reference	Weight kg
T-junction box	Tap link or extension for bus cable TSX CSA●00	–	**TSX SCA 50**	0.520
UNI-TELWAY 2-channel subscriber socket	Tap link for bus cable	–	**TSX SCA 62**	0.570
Connecting cable	TSX SCA 62/TSX 17 ACC5 and TSX SCA 62/TSX SCG 1161E	1.5 m	**TSX CSC 015**	0.220
Bus cable, screened twisted double pair	Trunk cable and tap link	100 m	**TSX CSA 100**	15.000
		200 m	**TSX CSA 200**	30.000
		500 m	**TSX CSA 500**	75.000

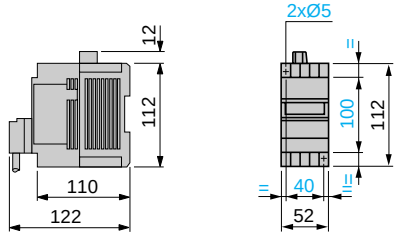


TSX SCA 62

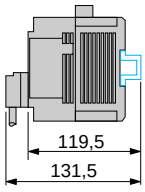
(1) The letter **E** at the end of a reference indicates a product includes documentation in English.
(2) The TSX 17 ACC5E adaptor is not compatible with the FIPWAY module TSX 17 FPG 10E.

Dimensions, mounting

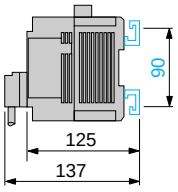
Communication modules TSX SCG 11●1E TSX 17 ACC 5E



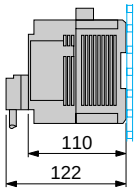
Mounting on rails AM1-DE200



DZ5-MB201



Mounting on AM1-PA mounting plate



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