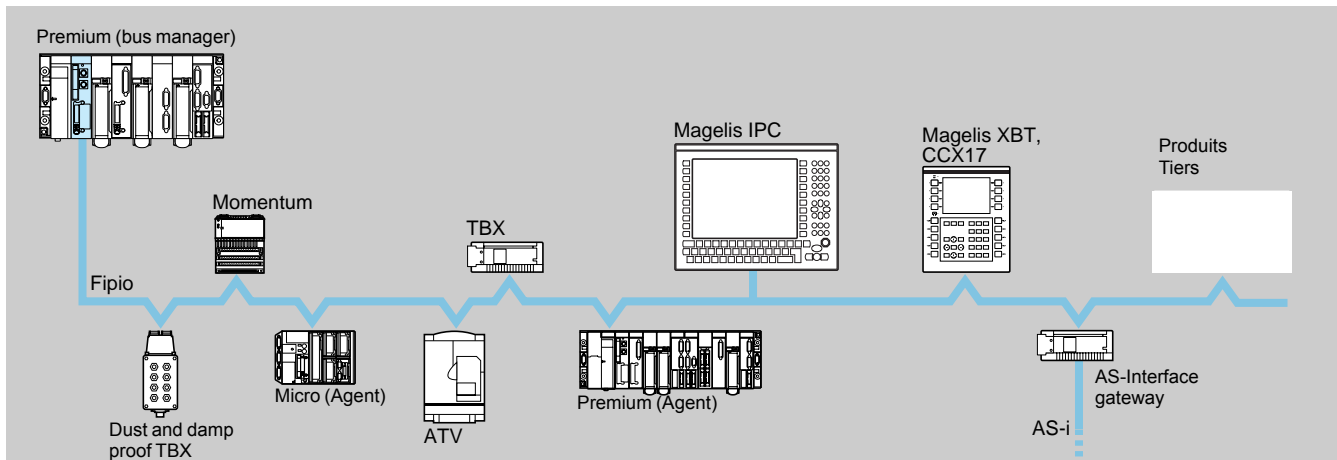


Presentation



The Fipio fieldbus is a standard means of communication between different control system components. It enables 127 devices to be connected at the connection point integrated in the processor. This fieldbus conforms to the WorldFip standard based on producer/consumer mechanisms. It is designed for remote location of I/O up to 15 km away and enables a third-party Schneider Alliances device to be installed. The bus arbitrator (manager) can be a :

- Premium PLC TSX P 57 15●/25●/2823/35●/45●/4823/554M
- Atrium slot-PLC T PCX 57 353/TSX PCI 354M.

Characteristics see page 43593/3.

Fipio bus accessories and connecting cables, see pages 43597/2 to 43597/5.

Connectable devices

Schneider Electric devices which can be connected on the Fipio bus include:

- Micro/Premium Agent function (via PCMCIA TSX FPP 10 card).
- CCX 17 operator panel (version ≥ 2.4) (via PCMCIA TSX FPP 10 card).
- Magelis XBT-F graphic screen terminal (via PCMCIA TSX FPP 10 card) PCMCIA TSX FPP 20 card.
- Le PC industriel Magelis IPC (via carte PCMCIA TSX FPC 10M).
- Advantys STB distributed I/O (with STB NFP 2212 network interface module).
- Momentum distributed discrete, analogue or application-specific I/O (with 170 FNT 110 01 communication module version ≥ 1.0).
- TBX distributed discrete (1) or analogue I/O (IP 20) with TBX LEP 030 communication module version ≥ 1.2 .
- TBX distributed discrete dust and damp proof I/O (IP 65) (2) or TSX E●F (IP 67).
- ATV 38/58/58F variable speed drive (via VW3-A58301/311 card) and ATV 68 (via VW3-A68301 card).
- TBX SAP 10 Fipio/AS-Interface gateway (2).
- Partner products (see below).

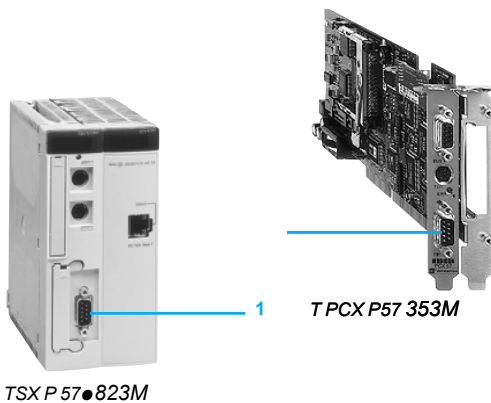
Fipio bus openness

Collaborative Automation Partner Program is an industrial and commercial programme of cooperation between Schneider Electric and its partners, offering automation products (hardware and software), system integration and other services to complement the Schneider Electric offer.

The programme was established to improve the connection of devices from other control system suppliers on the Fipio bus. Connection of a wide variety of different brands of sensors and actuators offers the end user a choice of global, high-performance and low-cost control system solutions.

(1) WorldFip mode is only supported by TBX discrete I/O modules version ≥ 1.4 . (TBX LEP 020).

(2) WorldFip mode is only supported by modules version ≥ 2.0 .



Fipio bus openness (continued)

Schneider Electric has integrated specific WorldFip mechanisms into its PLCs and software in order to make them accessible to any automation system engineer without any particular expertise in this area. Schneider Electric products and partner products connected on Fipio then automatically reap the following benefits: simplified description of architectures and configuration of equipment, and also simple control system development and programming, operation and maintenance.

Find out more about the “Collaborative Automation Partner Program” at : www.collaborativeautomation.schneider-electric.com

Description

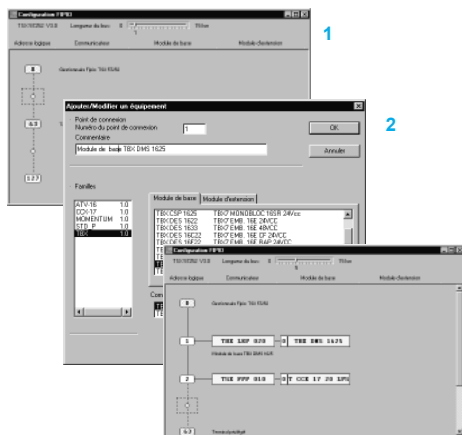
TSX P 57 ●53/54M (1) processors and the T PCX P 57 353/TSX PCI 354M slot-PLCs have on the front panel:

- 1 A 9-way SUB-D connectdiscr. for connection to the bus via the TSX FP ACC 2/12 connector.

Software setup

Configuration

Unity Pro or PL7 Junior/Pro software offer configuration screens which enable the declaration and immediate and intuitive configuration of the remote devices connected on the Fipio bus.



- 1 Each circle represents one connection point.
- 2 Clicking on a circle accesses the catalogue of devices which can be connected.
- 3 Once confirmed, the Fipio bus configuration will appear.

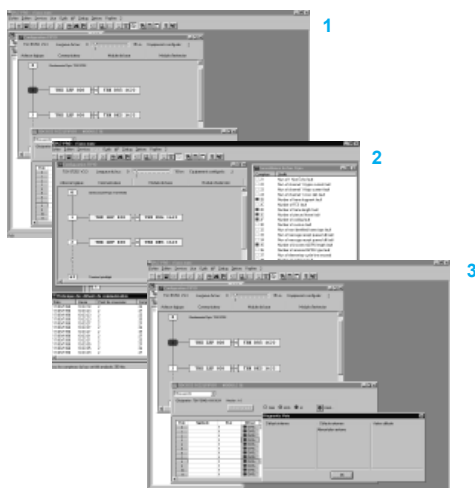
Processors fitted with the integrated Fipio link can manage 128 connection points on the bus (addresses 0 to 127).

See page 43589/4 for the table detailing limitations according to processor and type of device.

Diagnostics

The diagnostic functions of the Fipio bus, integrated in the Unity Pro or 4PL7 Junior/Pro software, very quickly identify a fault on:

- The bus medium.
- Remote devices.



- 1 A graphic representation of the architecture displays the defective devices in red.
- 2 More detailed diagnostics can be accessed by double-clicking.
- 3 In addition, special screens display an overview of all the faults appearing on the bus or on any device. On request, these faults can be recorded for later analysis.

(1) The TSX P 57 153/154M processor is a single format module.

Maximum configuration

The Fipio bus enables a maximum of 128 devices to be connected. This limit can, in certain cases, be restricted depending on the type of bus manager processor and on the devices which are connected on the bus.

The maximum number of devices which can be connected depends on:

- The maximum size of memory space available for Fipio data which is
 - 94320 bytes for TSX P57 15●/25●/2823/35● processors and the T PCX 57 353/TSX PCI 57 354M slot-PLC,
 - 214528 bytes for the TSX P 57 45●/4823/554M.
- The total number of bytes consumed by each device (see table below).

Product family	Reference	Base size (bytes)	Extension size (bytes)	Maximum number of connection points			
				TSX P57153M	253/2663/353M	453/4823M	
Maxi number of Fipio devices (1)							
ATV 38/58	With VW3-A58301 card	1808		63	127	127	
ATV 38/58/58F	With VW3-A58311 card	1280		52	52	62	
ATV 68	With VW3-A68301 card	1280		62	62	62	
Lexium MHDA	With AM0 FIP 001V000 card	1424		62	62	62	
CCX 17	T CCX 1720 F/FPS, T CCX 17●0 L/LPS	1952		4	4	4	
Magelis XBT-F	With TSX FPP 10 card	1424		62	62	62	
Magelis IPC, compatible PC	With TSX FPP 20 (address 63)	–		1	1	1	
Inductel, read/write stations	XGK-S130421, XGP-S1304202 With VW3-A58301 card	1808		52	52	62	
Advantys STB	STB NFP 2212	832, 896 or 1280 (2)		62	113, 105 or 73	126	
Momentum	170 ADI ●●●/ADO ●●●, 170 ADM 350 10/11, 170 ARM 370 10/390 10/30, 170 ADM 690 51, 170 ARN 120 90, 170 ARM 370 30/390 10	832		62	98	98	
	170 AAI 030 00/520 40, 170 AAO 120 00/921 00, 170 AEC 920 00, 170 AMM 090 00	1808		52	52	98	
	170 AAI 140 00	2304		40	40	92	
TBX (3)	TBX AES 200/ASS 400 (4)	1332		62	70	126	
			272 (2/4 chan. extens.)	59	59	126	
	TBX AMS 620	1584		59	59	126	
			272 (2 chan. extens.)	50	50	100 (4)	
			528 (8 chan. extens.)	44	44	63 (4)	
	TBX CEP 1622/CSP 1622/1625	1152		31	31	31	
	TBX DES 16●●/DMS16●●/DSS16●●	1152		62	81	126	
			144 (extension)	62	64 (5)	64 (5)	
	TBX DSS 1235	1152		144 (extension)	62	72	85 (5)
	TBX DMS 1025	1152		144 (extension)	62	72	102 (5)
TBX EEP/ESP 08C22/1622 (IP 65)	1152			62	64	126	
TBX SAP 10	1808			52	52	117	
I/O IP 67	TSX EEF 08D2/EEF 16D2	832		62	98	98	
	TSX ESF 08T22/EMF 16DT2	1808		52	52	98	
Micro/Premium Agent	With TSX FPP 10 card	1424		62	62	62	
FipConnect profile	FRD C2	832		62	113	126	
	FRD C2P	1744		54	54	122	
	FSD C8	896		62	105	126	
	FSD C8P	1808		52	52	117	
	FSD M8	1040		62	90	126	
	FSD M8P	1952		48	48	109	
	FED C32	1280		62	73	126	
	FED C32P	2304		40	40	92	
	FED M32	1424		62	66	126	
	FED M32P	2448		38	38	87	

Not applicable

(1) Address 63 is reserved for the programming and diagnostic terminal.

(2) Depending on the I/O number island.

(3) Do not mix discrete and analogue base units on the same Fipio connection point.

(4) The number of analogue channels for TBX base units (AES, ASS or AMS) is limited to 1008.

(5) The number of channels for TBX base units (DES, DMS or DSS) is limited to 2048.



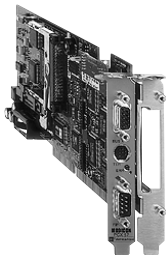
TSX P57 153M



TSX P57 253/353/453M



TSX P57 454/554M



T PCX 57 353M



TSX FP ACC 12

Application services

When using the bus manager function, the application services supported by the Premium PLCs are:

■ Remote I/O

Remote I/O modules are addressed by the PL7 application program as "In rack" I/O, with which they can of course coexist. This service enables the exchange of I/O status variables and output command variables. These exchanges are carried out in a cyclical and deterministic manner and without intervention from the application program.

The manager also manages remote devices (configuration) in an aperiodic manner, without intervention from the application program.

■ Uni-TE service

X-Way industrial message handling service suitable for MMI, diagnostics and control functions (requests of 128 bytes maximum).

■ Application-to-application service

This service consists of sending tables between 2 devices under the control of their respective application programs (requests of 128 bytes maximum).

■ Terminal transparency

Terminals connected on a higher level X-way network or on the manager PLC terminal port communicate with the devices on the bus. This is also the case when the terminal is connected at the priority address 63.

Processors and coprocessor

Type and max.no. of racks	Software compatibility	Reference	Weight kg
TSX P57 15●M 4 racks	Unity Pro	See page 43517/10	–
	PL7 Junior/Pro	See page 43511/7	–
TSX P57 25●M TSX P57 2823M 16 racks	Unity Pro	See page 43517/10	–
	PL7 Junior/Pro	See page 43511/7	–
TSX P57 35●M 16 racks	Unity Pro	See page 43517/10	–
	PL7 Junior/Pro	See page 43511/7	–
TSX P57 45●M TSX P57 4823M 16 racks	Unity Pro	See page 43517/11	–
	PL7 Junior/Pro	See page 43511/7	–
TSX P57 554M	Unity Pro	See page 43517/11	–
PCX 57 3● 16 racks TSX PCI 354M	Unity Pro	See page 43518/9	–
	PL7 Junior/Pro	See page 43513/5	–

Accessories and connecting cables ⁽¹⁾

Description	Use	Material	Reference	Weight kg
Female connectors (9-way SUB-D)	Processors and slot-PLCs with Fipio integrated link	Polycarbonate black (IP 20)	TSX FP ACC 12	0,040
		Zamac	TSX FP ACC 2	0,080

(1) .For other accessories and Fipio bus connecting cables, see pages 43597/6 and 43590/3.