1. LS197

1.1 General information

The Logic Scanner module LS197 is a PCI half-size module. It is Plug & Play capable and has 1 MB SRAM onboard, which can be used by B&R Automation Runtime for remanent process variables.

The LS197 is equipped with a CAN bus interface (with its own object buffer in send and receive direction) and an X2X Link master interface.

- X2X Link connection
- CAN bus interface

1.2 Order data

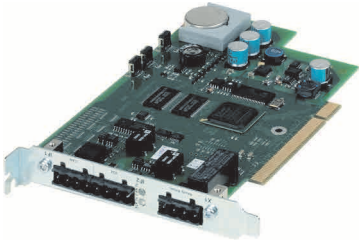
Model number	Short description	Image
5LS197.6	Logic Scanner X2X Link, PCI half-size module, 1 X2X Link master interface, electrically isolated, 1 CAN interface, max. 500 kBit/s, object buffer in both send and receive directions, network capable, electrically isolated, 1 MB SRAM (Automation Runtime). Order 3 x 0TB704.9 terminal blocks separately!	
Required accessories		
0TB704.9	Accessory terminal block, 4-pin, screw clamp, 1.5 mm²	
Optional accessories		
4A0006.00-000	Lithium battery, 3 V / 950 mAh, button cell	
0AC201.9	Lithium batteries, 5 pcs., 3 V / 950 mAh, button cell	
0AC913.93	Bus adapter, CAN, 2 CAN interfaces, including 30 cm connection cable (TB704)	
Information: **The 4-pin terminal blocks TB704 are not included in delivery.**		

Table 1: LS197 order data

1.3 Technical data

Name	LS197
Short description	
Communication module	1 x CAN Bus, 1 x X2X Link master
Interfaces	
Interface IF1 Type Design Maximum transfer rate	 CAN bus 4-pin multipoint connector 500 kBit/s
Interface IF2 Type Design	 X2X Link master 4-pin multipoint connector
General information	
Status indicators	1 LED per interface for sending data
Diagnostics Data transfer	 Yes, with status LED and software status
SRAM	1 MB, battery-backup
Ready relay	N.O. and N.C., max. 30 VDC, max. 10 A
Electrical isolation PC - IFx IF1 - IF2	 Yes Yes
Power consumption	2.28 W
Certification	CE, C-UL-US, GOST-R
Mechanical characteristics	
Slot	Standard PCI half-size module, ISA Plug & Play
Installation in B&R Automation PC APC6xx B&R Panel PC PPC700 Desktop PC	 Yes Yes Yes
Protection type	IP20 when installed
Operating / Storage temperature	0 °C to +60 °C / -25 °C to +70 °C
Relative humidity	0 to 95 %, non-condensing
Comment	Order 3 x 0TB704.9 terminal block separately Lithium battery included in delivery

Table 2: LS197 technical data

1.4 Additional technical data

Name	LS197
Interface IF1, CAN bus	
Controller	SJA 1000 controller
Maximum distance	1000 m
Maximum transfer rate Bus length ≤60 m Bus length ≤200 m Bus length ≤1000 m	 500 kBit/s 250 kBit/s 50 kBit/s
Network-capable	Yes
Bus termination resistor	Externally wired (optional)
Interface IF2, X2X Link master	
Number of stations	Max. 253
Distance between two stations	Max. 100 m
Network topology	Line
Internal bus supply	No
Bus termination resistor	Internal
General information	
B&R ID code	$197B

Table 3: LS197 additional technical data

1.5 Dimensions

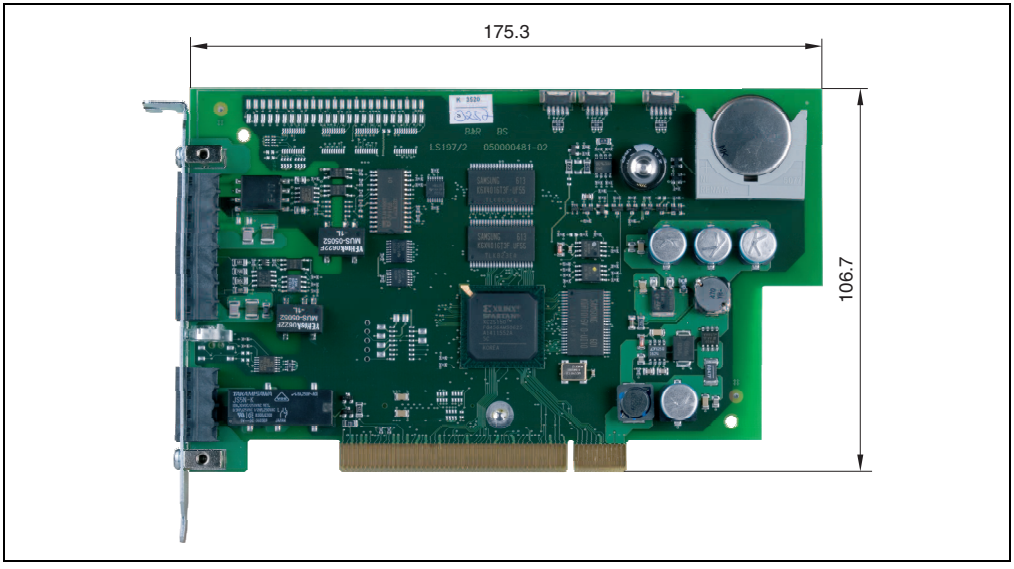


Figure 1: LS197 dimensions

1.6 Status LEDs

1.6.1 CAN bus

Image	LED	Color	Description
	CAN Tx	Orange	The module sends data via the CAN bus interface.

Table 4: LS197 status indicator, CAN bus interface

1.6.2 X2X Link interface

Image	LED	Color	Description
	X2X Tx	Orange	The module sends data via the X2X Link interface.

Table 5: LS197 status indicator, X2X Link interface

1.7 Operating and connection elements

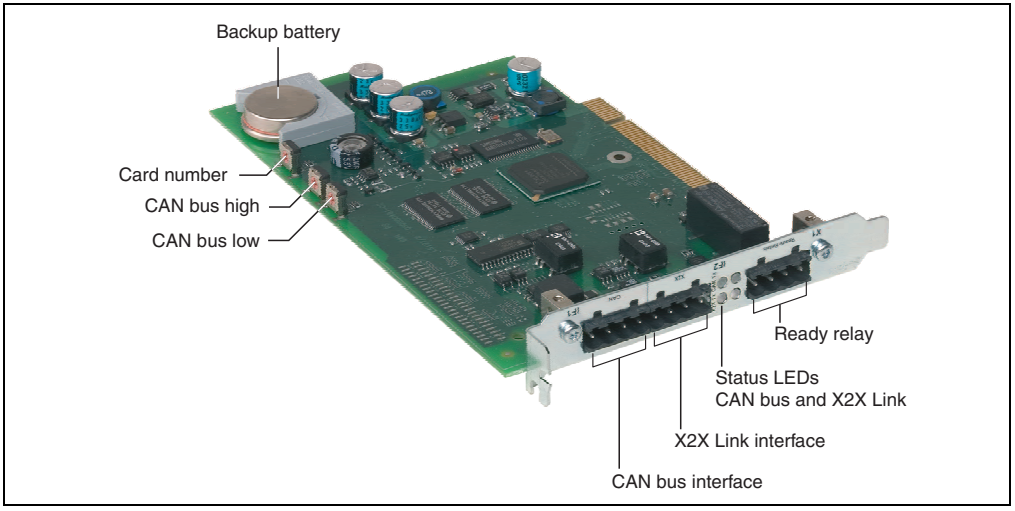


Figure 2: LS197 operational and connection elements

1.8 CAN bus node number

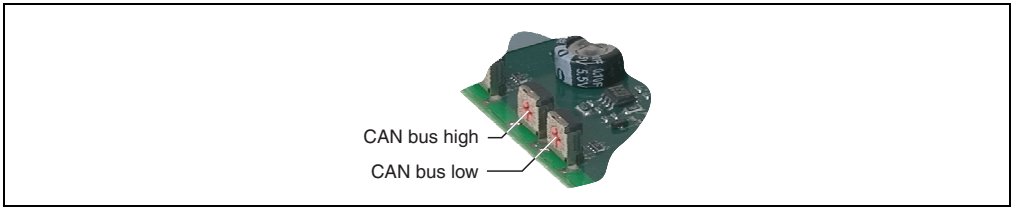


Figure 3: LS197 CAN bus node number switch

The node number for the CAN bus interface (IF1) is set with the two hex switches.

1.9 CAN bus interface (IF1)

A 120 Ω bus terminating resistor is included with delivery. The resistor can be inserted between pin 1 and pin 3.

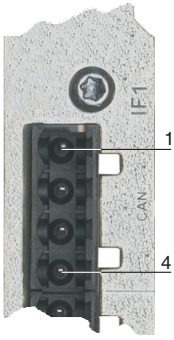
Interface	Description	Pin assignments		
Application interface CAN bus  4-pin multipoint connector	The electrically isolated CAN bus interface is a 4-pin multipoint connector. Maximum transfer rate: 500 kBit/s bus length: ≤60 m 250 kBit/s bus length: ≤200 m 50 kBit/s bus length: ≤1000 m	**Terminal**	**CAN bus**	
		1	CAN_H	CAN high
		2	CAN⊥	CAN ground
		3	CAN_L	CAN low
		4	SHLD	Shield

Table 6: LS197 CAN bus interface (IF1)

1.10 X2X Link interface (IF2)

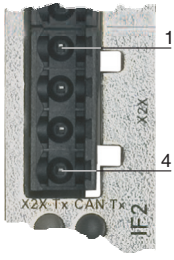
Interface	Description	Pin assignments		
Application interface X2X Link  4-pin multipoint connector	The electrically isolated X2X Link is a 4-pin multipoint connector.	**Terminal**	**X2X Link**	
		1	X2X	
		2	X2X⊥	
		3	X2X\	
		4	SHLD	Shield

Table 7: LS197 X2X Link interface (IF2)

1.11 Card number switch

The one digit card number ($1 - $F) is configured using the card number switch. This number is used to for module differentiation if several LS197 modules are used in a system.

1.12 Backup battery

The LS197 has 1 MB SRAM onboard. The module is equipped with a backup battery for data buffering.

1.13 B&R Automation Runtime

B&R Automation Runtime must be installed on the PC. The following runtime systems can be installed:

- AR010
- AR106

1.14 SRAM

The LS197 is equipped with 1 MB SRAM. This memory can be used by B&R Automation Runtime for remanent process variables.

1.15 Firmware update

The LS197 module comes with preinstalled firmware. The firmware is also part of the B&R Automation Runtime operating system for the PLC. If the two versions are different, the Automation Runtime firmware is loaded to the module.

The latest LS197 firmware is available automatically when updating B&R Automation Runtime.