

SIMATIC ET 200 distributed I/O

ET 200SP

Interface modules without CPU

IM 155-6

Overview



- Interface module for linking the ET 200SP to PROFINET or PROFIBUS
- Handles all data exchange with the controller
- BusAdapter (BA) for individual PROFINET connection
- Integrated 2-port switch for line configuration
- Depending on the selected interface module
 - Up to a maximum of 64 I/O modules per station
 - Replacement of I/O modules during operation
- Operation with gaps (non-equipped BaseUnits) possible
- Replacement of an I/O module possible during operation (hot swapping)
- Load group formation without power module

Technical specifications

	6ES7155-6AA00-0BN0 IM 155-6 PN ST with BA 2xRJ45 and server module	6ES7155-6AU00-0BN0 IM 155-6 PN ST with server module	6ES7155-6AU00-0CN0 IM 155-6 PN HF with server module	6ES7155-6BA00-0CN0 IM155-6DP HF with PROFIBUS connector and server module
General information				
Product function				
• I&M data	Yes	Yes	Yes; I&M0 to I&M4	Yes; I&M0 to I&M3
Engineering with				
• STEP 7 TIA Portal can be configured/integrated as of version	V11 SP2 with HSP0024 / -	V12 / V12		
• STEP 7 can be configured/integrated as of version	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / -
• PROFIBUS as of GSD version/GSD revision				GSD as of Revision 5
• PROFINET as of GSD version/GSD revision	V2.3 / -	V1.0 / V2.23	V2.3 / -	
Supply voltage				
Type of supply voltage		24 V DC	DC	DC
Rated value (DC)	24 V	24 V	24 V	24 V
Reverse polarity protection	Yes	Yes	Yes	Yes
Mains buffering				
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms
Hardware configuration				
Rack				
• maximum	32	32	64	
Interfaces				
Number of PROFINET interfaces	1	1	1	
Number of PROFIBUS interfaces				1

Technical specifications (continued)

	6ES7155-6AA00-0BN0 IM 155-6 PN ST with BA 2xRJ45 and server module	6ES7155-6AU00-0BN0 IM 155-6 PN ST with server module	6ES7155-6AU00-0CN0 IM 155-6 PN HF with server module	6ES7155-6BA00-0CN0 IM155-6DP HF with PROFIBUS connector and server module
1st interface				
• Interface types				
- Number of ports	2	2	2	
- Integrated switch	Yes	Yes	Yes	
- RJ 45 (Ethernet)	Yes; Pre-assembled BusAdapter BA 2x RJ45			
- RS 485				Yes
- Bus adapter (PROFINET)	Yes; Applicable BusAdapters: BA 2x RJ45, BA 2x FC	Yes; Applicable BusAdapters: BA 2x RJ45, BA 2x FC	Yes	
- Output current of the interface, max.				90 mA
• Protocols				
- PROFINET IO Device	Yes	Yes	Yes	
- Open IE communication	Yes	Yes	Yes	Yes
- PROFIBUS DP slave				
- Media redundancy	Yes	Yes	Yes; As MRP or MRPD client; max. 50 or 30 devices in the ring	
Interface types				
RJ 45 (Ethernet)				
• 10 Mbps	Yes; for Ethernet services	Yes; for Ethernet services	Yes; for Ethernet services	
• 100 Mbps	Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)	Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)	Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)	
• Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)	PROFINET with 100 Mbit/s full duplex (100BASE-TX)	PROFINET with 100 Mbit/s full duplex (100BASE-TX)	
• Autonegotiation	Yes	Yes	Yes	
• Autocrossing	Yes	Yes	Yes	
RS485				
• Transmission rate, max.				12 Mbit/s
Protocols				
Supports protocol for PROFINET IO	Yes	Yes	Yes	
PROFINET IO Device				
• Services				
- Isochronous mode			Yes	
- Open IE communication	Yes	Yes	Yes	
- IRT, supported	Yes; with send cycles of between 250 µs and 4 ms in increments of 125 µs	Yes; with send cycles of between 250 µs and 4 ms in increments of 125 µs	Yes; 250 µs, 500 µs, 1 ms, 2 ms, 4 ms additionally with IRT with high performance: 250 µs to 4 ms in 125 µs frame	
- MRP, supported			Yes	
- MRPD, supported			Yes	
- PROFIenergy		Yes	Yes	
- Prioritized startup	Yes	Yes	Yes	
- Shared device	Yes	Yes	Yes	
- Number of IO controllers with shared device, max.		2	4	
Open IE communication				
• TCP/IP	Yes	Yes	Yes	
• SNMP	Yes	Yes	Yes	
• LLDP	Yes	Yes	Yes	
PROFIBUS				
• Services				
- SYNC capability				Yes
- FREEZE capability				Yes
- DPV0				No
- DPV1				Yes

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Isochronous mode Isochronous operation (application synchronized up to terminal)			Yes	
equidistance			Yes	
shortest clock pulse			250 µs	
max. cycle			4 ms	
Interrupts/diagnostics/ status information				
Status indicator	Yes	Yes	Yes	Yes
Alarms • Alarms	Yes	Yes	Yes	Yes
Diagnostic messages • Diagnostic functions	Yes	Yes	Yes	Yes
Diagnostics indication LED • RUN LED • ERROR LED • MAINT LED • Monitoring the supply voltage • Connection display LINK TX/RX • Connection display DP	Yes; Green LED Yes; Red LED Yes; yellow LED Yes; Green LED Yes Yes	Yes; Green LED Yes; Red LED Yes; yellow LED Yes; Green LED Yes; 2x green LED	Yes; Green LED Yes; Red LED Yes; yellow LED Yes; Green LED Yes; 2x green LED	Yes; Green LED Yes; Red LED Yes; yellow LED Yes; green PWR LED Yes; Green DP LED
Isolation Isolation checked with	707 V DC between supply voltage and electronics; 1500 V AC between Ethernet and electronics	707 V DC between supply voltage and electronics (type test); 1500 V AC between Ethernet and electronics (type test)	707 V DC between supply voltage and electronics (type test); 1500 V AC between Ethernet and electronics (type test)	707 V DC (type test)
Standards, approvals, certificates				
Network loading class	3	3	3	
Security level	According to Security Level 1 Test Cases V1.1.1	According to Security Level 1 Test Cases V1.1.1	According to Security Level 1 Test Cases V1.1.1	
Ambient conditions Operating temperature • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, max.	0 °C 60 °C 0 °C 50 °C	0 °C 60 °C 0 °C 50 °C	0 °C 60 °C 0 °C 50 °C	0 °C 60 °C 0 °C 50 °C
Dimensions				
Width	50 mm	50 mm	50 mm	50 mm
Height	117 mm	117 mm	117 mm	117 mm
Depth	74 mm	74 mm	74 mm	74 mm
Weights Weight, approx.	191 g	147 g; without bus adapter	147 g; without bus adapter	150 g