SIEMENS

Data sheet

6ES7157-1AB00-0AB0



SIMATIC ET 200AL, PROFINET interface module IM 157-1 PN, Degree of protection IP67 $\,$

Product type designation	General information	
Firmware version	Product type designation	IM 157-1 PN
Vendor identification (VendorID) Product function • I&M data Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 TOR STEP 7	HW functional status	FS02
Product function • I&M data Finglineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 To Angly able/integrated from version • STEP 7 To Fonfigurable/integrated from version • STEP 7 To Fonfigurable/integrated from version • STEP 7 V13 SP1 or higher From V5.5 SP4 Hoffix 3 • PROFINET from GSD version/GSD revision GSDML V2.3.1 Configuration control via dataset Yes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ • Rated value (DC) • Permissible range, lower limit (DC) • Permissible range, upper limit (DC) • Reverse polarity protection Tourient consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 1L+ (unswitched voltage) 4 A; Maximum value Power loss, typ. Address space per station • Address space	Firmware version	V1.0.x
• I8M data Yes; I8M0 to I8M4 Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • PROFINET from GSD version/GSD revision Configuration control via dataset Yes Supply voltage power supply according to NEC Class 2 required Load voltage 1L+ • Rated value (DC) • permissible range, upper limit (DC) • Reverse polarity protection input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 2.9 W Address area Address space per station • Address space per finitefaces Interface type Inter	Vendor identification (VendorID)	002AH
Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version STEP 7 configurable/integrated from version Prom V5.5 SP4 Hotfix 3	Product function	
STEP 7 tIA Portal configurable/integrated from version STEP 7 tonfigurable/integrated from version PROFINET from GSD version/GSD revision SDML V2.3.1 Configuration control Via dataset Yes Supply voltage power supply according to NEC Class 2 required Load voltage 11- Rated value (DC) permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection From load voltage 11- Current consumption (rated value) From load voltage 11-, max. Address area Address space per station, max. Address space per station, max. Interfaces Number of PROFINET interfaces Interface type Interfa	I&M data	Yes; I&M0 to I&M4
STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision GSDML V2.3.1 Configuration control via dataset Yes Supply voltage power supply according to NEC Class 2 required Load voltage 1L+ Pated value (PC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible	Engineering with	
◆ PROFINET from GSD version/GSD revision GSDML V2.3.1 Configuration control via dataset Yes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ • Rated value (DC) 24 V ◆ permissible range, lower limit (DC) 20.4 V • permissible range, upper limit (DC) 28.8 V ◆ Reverse polarity protection Yes; against destruction Input current Current consumption (rated value) 100 mA from load voltage 1L+ (unswitched voltage) 4 A; Maximum value from load voltage 2L+, max. 4 A; Maximum value Power loss Power loss Address area Address space per station Address space per station, max. 1 430 byte Interfaces 1 Number of PROFINET interfaces 1 Interface type PROFINET Interface types PROFINET • M12 port Yes; 2x M12 D-coded • integrated switch Yes PROFINET IO Device Yes • Open IE communication Yes	 STEP 7 TIA Portal configurable/integrated from version 	STEP 7 V13 SP1 or higher
Configuration control via dataset Yes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ • Rated value (DC) 24 V • permissible range, lower limit (DC) 28.8 V • Reverse polarity protection Yes; against destruction Input current Current consumption (rated value) 100 mA from load voltage 1L+ (unswitched voltage) 4 A; Maximum value from load voltage 2L+, max. 4 A; Maximum value Power loss, typ. 2.9 W Address area Address space per station • Address space per station • Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces 1 1. Interface type Interface type Interface type Interface type • M12 port • Yes; 2x M12 D-coded • integrated switch Yes PROFINET iO Device • Open IE communication Yes	 STEP 7 configurable/integrated from version 	From V5.5 SP4 Hotfix 3
via dataset Yes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ • Rated value (DC) 24 V • permissible range, lower limit (DC) 20.4 V • permissible range, upper limit (DC) 28.8 V • Reverse polarity protection Yes; against destruction Input current Current consumption (rated value) 100 mA from load voltage 1L+ (unswitched voltage) 4 A; Maximum value from load voltage 2L+, max. 4 A; Maximum value Power loss Power loss, typ. 2.9 W Address space per station • Address space per station • Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces 1 I. Interface type PROFINET Interface type PROFINET Interface type PROFINET Interface types • M12 port Yes; 2x M12 D-coded • integrated switch Yes Protocols • PROFINET IO Device Yes • Open IE communication Yes	 PROFINET from GSD version/GSD revision 	GSDML V2.3.1
power supply according to NEC Class 2 required Load voltage 11+ • Rated value (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • Reverse polarity protection Input current Current consumption (rated value) from load voltage 11+ (unswitched voltage) from load voltage 21+, max. Power loss Power loss Power loss, typ. 2.9 W Address area Address space per station • Address type Number of PROFINET interfaces 1. Interface Interface type • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication Pes	Configuration control	
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Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection put current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Power loss Power loss, typ. Address area Address space per station Address space per station, max. Interfaces Number of PROFINET interfaces Interface type PROFINET Interface type	power supply according to NEC Class 2 required	No
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection put current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Power loss Power loss Power loss, typ. Address space per station Address space per station Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces Interface type Interface type Interface type Interface type • M12 port • integrated switch PROFINET IO Device • Open IE communication Yes 2 2.9 V Address space per station PROFINET IO Device Yes Yes Yes Popen IE communication Yes	Load voltage 1L+	
Permissible range, upper limit (DC) Reverse polarity protection Yes; against destruction Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 4 A; Maximum value Power loss Power loss, typ. Address space per station Address space per station PROFINET interfaces Interface type PROFINET Interface type Address Interface type PROFINET Interface type PROFINET PROFINET Interface type PROFINET PROFINET Interface type PROFINET Interface type PROFINET PROFINE	 Rated value (DC) 	24 V
Reverse polarity protection Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Power loss Power loss, typ. 2.9 W Address area Address space per station Address space per station Address space per station Profinerfaces Number of PROFINET interfaces Interface type Interface type Interface types M12 port Interface types PROFINET Interface dypes PROFINET Interface dypes PROFINET Interface dypes PROFINET Interface types PROFINET IO Device PROFINET IO Device Yes Protocols PROFINET IO Device Yes	 permissible range, lower limit (DC) 	20.4 V
Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Power loss Power loss, typ. Address area Address space per station • Address space per station, max. Interfaces Number of PROFINET interfaces Interface type Interface type • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 100 mA 14 A; Maximum value 4 A; Maximum value 2.9 W Address space per station 1 4 30 byte 1 430 byte PROFINET PROFINET PROFINET PROFINET PROFINET PROFINET Protocols • PROFINET Protocols • PROFINET IO Device • Open IE communication Yes	 permissible range, upper limit (DC) 	28.8 V
Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 4 A; Maximum value Power loss Power loss, typ. 2.9 W Address area Address space per station • Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces Interface type Interface type • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 100 mA 4 A; Maximum value 5 PW FOW 4 A; Maximum value 5 PW FOW 4 A; Maximum value 5 PW FOW 5 PROFINET IO Device • Open IE communication 7 Yes	 Reverse polarity protection 	Yes; against destruction
from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 4 A; Maximum value Power loss Power loss, typ. 2.9 W Address area Address space per station • Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces Interface type Interface type • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 4 A; Maximum value PROFINET logure 9 PROFI	Input current	
from load voltage 2L+, max. Power loss Power loss, typ. 2.9 W Address area Address space per station • Address space per station, max. Interfaces Number of PROFINET interfaces Interface type Interface type • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 4 A; Maximum value	Current consumption (rated value)	100 mA
Power loss Power loss, typ. Address area Address space per station • Address space per station, max. Interfaces Number of PROFINET interfaces 1 1. Interface type Interface type Interface types • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 2.9 W PAGENTAL STATES STAT	from load voltage 1L+ (unswitched voltage)	4 A; Maximum value
Power loss, typ. Address area Address space per station • Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces 1 1. Interface Interface type Interface type Interface types • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 2.9 W Address area 2.9 W Address area 2.9 W Address area 2.9 W Address area 1 430 byte	from load voltage 2L+, max.	4 A; Maximum value
Address space per station • Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces 1 1. Interface Interface type Interface type Interface types • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication Yes	Power loss	
Address space per station Address space per station, max. 1 430 byte Interfaces Number of PROFINET interfaces 1. Interface Interface type Interface types M12 port integrated switch Protocols PROFINET IO Device Open IE communication 1 430 byte 1	Power loss, typ.	2.9 W
Address space per station, max. Interfaces Number of PROFINET interfaces 1 1. Interface Interface type Interface types • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication 1 430 byte 1 43	Address area	
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Number of PROFINET interfaces 1. Interface Interface type PROFINET Interface types • M12 port Yes; 2x M12 D-coded • integrated switch Yes Protocols • PROFINET IO Device Yes • Open IE communication Yes	 Address space per station, max. 	1 430 byte
1. Interface Interface type PROFINET Interface types • M12 port Yes; 2x M12 D-coded • integrated switch Yes Protocols • PROFINET IO Device Yes • Open IE communication Yes	Interfaces	
Interface type Interface types • M12 port • integrated switch Protocols • PROFINET IO Device • Open IE communication PROFINET PROFINET PROFINET PROFINET PROFINET Yes PROFINET Yes	Number of PROFINET interfaces	1
Interface types • M12 port Yes; 2x M12 D-coded • integrated switch Yes Protocols • PROFINET IO Device Yes • Open IE communication Yes	1. Interface	
 M12 port integrated switch Protocols PROFINET IO Device Open IE communication Yes 	Interface type	PROFINET
 M12 port integrated switch Protocols PROFINET IO Device Open IE communication Yes 	Interface types	
Protocols • PROFINET IO Device Yes • Open IE communication Yes		Yes; 2x M12 D-coded
 PROFINET IO Device Open IE communication Yes 	integrated switch	Yes
Open IE communication Yes	Protocols	
·	PROFINET IO Device	Yes
Interface types	Open IE communication	Yes
	Interface types	

M12 port • Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
10 Mbps	Yes; for Ethernet services
• 100 Mbps	Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX) Yes
Autoropoing	Yes
Autocrossing Protocols	res
PROFINET IO Device	
Services	Vac. 250 up 500 up 4 mg 2 mg 4 mg 0 mg 46 mg 22 mg 64 mg 420 mg
— IRT	Yes; 250 μs, 500 μs, 1 ms, 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms
— PROFlenergy	Yes
— Shared device	Yes
Number of IO Controllers with shared device, max. Padvadancy mode.	4
Redundancy mode	
Media redundancy	Vac
— MRP — MRPD	Yes
	Yes
Open IE communication	Von
• TCP/IP	Yes
• SNMP	Yes
LLDP Interrupts/diagnostics/status information	Yes
	V
Diagnostics function	Yes
Alarms	Ver
Diagnostic alarm Piagnostic indication LEB	Yes
Diagnostics indication LED	Voc. secon LED
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
MAINT LED Connection display LINIX TY/DY	Yes; Yellow LED
Connection display LINK TX/RX Potential separation	Yes; 2x green LED
	Vec
between the load voltages between PROFINET and all other circuits	Yes Yes
	res
Isolation	707 V DC (huna hash)
Isolation tested with	707 V DC (type test)
Degree and class of protection	IDOF 107
IP degree of protection	IP65/67
Standards, approvals, certificates	
Suitable for safety-related tripping of standard modules	Yes; From FS01
Highest safety class achievable for safety-related tripping of stand	ard modules
Performance level according to ISO 13849-1	ard modules PL d
Performance level according to ISO 13849-1Category according to ISO 13849-1	PL d Cat. 3
 Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 	PL d Cat. 3 SIL 2
 Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown 	PL d Cat. 3
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions	PL d Cat. 3 SIL 2
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min.	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max.	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method	PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection	PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C M8, 4-pole
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection ET-Connection	PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C
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Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection ET-Connection Dimensions Width	PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C M8, 4-pole M8, 4-pin, shielded 45 mm
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection ET-Connection Dimensions Width Height	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C M8, 4-pole M8, 4-pin, shielded 45 mm 159 mm
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection ET-Connection Dimensions Width Height Depth	PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C M8, 4-pole M8, 4-pin, shielded 45 mm
Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection ET-Connection Dimensions Width Height	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C M8, 4-pole M8, 4-pin, shielded 45 mm 159 mm 40 mm
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Performance level according to ISO 13849-1 Category according to ISO 13849-1 SIL acc. to IEC 62061 remark on safety-oriented shutdown Ambient conditions Ambient temperature during operation min. max. connection method Design of electrical connection for supply voltage ET-Connection ET-Connection Dimensions Width Height Depth Weights	ard modules PL d Cat. 3 SIL 2 https://support.industry.siemens.com/cs/de/en/view/39198632 -25 °C 55 °C M8, 4-pole M8, 4-pin, shielded 45 mm 159 mm 40 mm

