## **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 TIA Portal configurable/integrated from version • STEP 7 TONE Portal configurable/integrated from version • STEP 7 TONE Portal configurable/integrated from version • STEP 7 TONE Portal 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, lower limit (DC) • permissible range, upper limit (DC) • permissible range, upper limit (DC) • permissible range, upper limit (DC) • Peverage polarity protection  Input current  Current consumption (rated value)  from load voltage *1L+* (unswitched voltage)  from load voltage *2L+*, max.  Power loss, typ.  Address space per station. • Address space per station, max.  I 430 byte  Interface  Interface  No.  Ves.  PROFINET interfaces  • MIZ port • integrated switch  Protocols • PROFINET Io Device • Open IE communication  Yes  Open IE communication	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	<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	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	<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	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	<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	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  Number of PROFINET interfaces  1. Interface Interface type  • M12 port • integrated switch  Protocols • PROFINET IO Device • Open IE communication  Pes	Configuration control	
power supply according to NEC Class 2 required Load voltage 1L+  Rated value (DC)  permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) Reverse polarity protection  Input current  Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. A, (Maximum value)  Power loss Power loss, typ. Address area  Address space per station Address space per station Address space per station Number of PROFINET interfaces Interface Interface Interface type PROFINET interfaces  M12 port Protocols PROFINET IO Device PROFINET IO Device Person and the supplementation Yes Poper Iccommunication Prose Communication Prose Communication Prose Class 2 Prose Prose Class 2 Prose Class 3 Prose Class 4 Prose Class 4 Prose Class 4 Prose Class 4 Prose Class 5 Prose Class 6 Prose Class 7 Prose Class 6 Prose Class 6 Prose Class 7 Prose Clas	via dataset	Yes
Load voltage 1L+  Rated value (DC)  Parmissible range, lower limit (DC)  Reverse polarity protection  Input 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  Parformer of PROFINET interfaces  Interface  Interface type  Interface type  M12 port  M12 port  Interface display the first of the first	Supply voltage	
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	<ul> <li>Rated value (DC)</li> </ul>	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 IO Device  PROFINET IO Device  PROFINET IO Device  Proside destruction  Yes  Yes  Yes  Popen IE communication  Yes	<ul> <li>permissible range, lower limit (DC)</li> </ul>	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	<ul> <li>permissible range, upper limit (DC)</li> </ul>	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	<ul> <li>Reverse polarity protection</li> </ul>	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	
Interfaces  Number of PROFINET interfaces  1  1. Interface Interface type Interface types  • M12 port • integrated switch  Protocols  • PROFINET IO Device • Open IE communication  1  1  1  1  1  1  1  1  1  1  1  1  1	Address space per station	
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	<ul> <li>Address space per station, max.</li> </ul>	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	
<ul> <li>M12 port</li> <li>integrated switch</li> <li>Protocols</li> <li>PROFINET IO Device</li> <li>Open IE communication</li> <li>Yes</li> </ul>	Interface type	PROFINET
<ul> <li>M12 port</li> <li>integrated switch</li> <li>Protocols</li> <li>PROFINET IO Device</li> <li>Open IE communication</li> <li>Yes</li> </ul>	Interface types	
Protocols  • PROFINET IO Device Yes  • Open IE communication Yes		Yes; 2x M12 D-coded
<ul> <li>PROFINET IO Device</li> <li>Open IE communication</li> <li>Yes</li> </ul>	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)
Autonegotiation	Yes
Autocrossing	Yes
Protocols	
PROFINET IO Device	
Services	
— 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.	4
Redundancy mode	1
Media redundancy	
— MRP	Yes
— MRPD	Yes
Open IE communication	165
• TCP/IP	Yes
• SNMP	Yes
• LLDP	Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	165
Diagnostic alarm	Yes
Diagnostics indication LED	165
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
MAINT LED	Yes; Yellow LED
Connection display LINK TX/RX	Yes; 2x green LED
Potential separation	100, 2X groundle
between the load voltages	Yes
between PROFINET and all other circuits	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Degree and class of protection	Tor V Do (type test)
IP degree of protection	IP65/67
Standards, approvals, certificates	11 00/07
Suitable for safety-related tripping of standard modules	Yes; From FS01
, , , ,	
Highest safety class achievable for safety-related tripping of stand	
<ul> <li>Performance level according to ISO 13849-1</li> <li>Category according to ISO 13849-1</li> </ul>	PL d Cat. 3
SIL acc. to IEC 62061	SIL 2
remark on safety-oriented shutdown	https://support.industry.siemens.com/cs/de/en/view/39198632
Ambient conditions	Intpositoupportainuuoity.aichieria.com/ca/ue/en/view/aa 1900a2
Ambient temperature during operation	-25 °C
• min.	-25 °C 55 °C
max. connection method	55 0
	M9 4 polo
Design of electrical connection for supply voltage	M8, 4-pole
ET-Connection	M9 4 pin chielded
	M8, 4-pin, shielded
• ET-Connection	
Dimensions	45 mm
Dimensions Width	45 mm
Dimensions Width Height	159 mm
Dimensions  Width  Height  Depth	
Dimensions  Width  Height  Depth  Weights	159 mm 40 mm
Dimensions  Width  Height  Depth	159 mm

