6ES7155-5AA00-0AA0

Data sheet



SIMATIC ET 200MP PROFINET IO device Interface module IM 155-5 PN BA for ET 200MP electronic modules; up to 12 IO modules; Integrated 2-port switch; RJ45 Shared Device with 2 IO controllers, MRP; FW update; I&M0...3

Product type designation IM 155-5 PN BA HW functional status From FS02 Firmware version V4.3.0 V4.3.0 V2.0 V2.0 V2.0 V2.0 V2.0 V2.0 V2.0 V2	General information	
Firmware version V4.3.0 Vendor identification (VendorID) 0x002A Device identifier (DeviceID) 0x00312 Product function • I&M data • Module swapping during operation (hot swapping) • Isochronous mode No Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • STEP 7 configurable/integrated from version • PROFINET from GSD version/GSD revision V2.3 / - Configuration control via user data No via dataset No Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Short-circuit protection Yes Mains/voltage failure stored energy time 5 ms Input current Current consumption, max. 1.7 A Inrush current, max. 2.8 A Pt 0.04 A²-s Power loss Power loss Power loss Power loss, typ. 3 W Address area	Product type designation	IM 155-5 PN BA
Vendor identifier (DeviceID) 0x002A Device identifier (DeviceID) 0x0312 Product function	HW functional status	From FS02
Device identifier (DeviceID) Product function • I&M data • Module swapping during operation (hot swapping) • Isochronous mode Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 To configurable/integrated from version • STEP 7 To configurable/integrated from version • PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision V2.3 / - Configuration control via user data via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Permissible range (upper limit (DC) Short-circuit protection Yes Short-circuit protection Mains/voltage failure stored energy time • Mains/voltage failure stored energy time Input current Current consumption (rated value) 1 A Current consumption (rated value) 1 A Current consumption (rated value) 1 A Current consumption, max. 1.7 A Inrush current, max. 2.8 A Pt 0.04 A²-s Power loss Power loss Power loss, typ. 3 W Address area	Firmware version	V4.3.0
Product function • I&M data • Module swapping during operation (hot swapping) • Isochronous mode Engineering with • STEP 7 TIA Portal configurable/integrated from version • STEP 7 configurable/integrated from version • STEP 7 configurable/integrated from version • STEP 7 configurable/integrated from version • PROFINET from GSD version/GSD revision V5.5 SP3 /- • PROFINET from GSD version/GSD revision V3.3 /- Configuration control via user data No via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Permissible range in the control of t	Vendor identification (VendorID)	0x002A
Isam data No Module swapping during operation (hot swapping) Isochronous mode Isochronous mode No Indicates a supply a supp	Device identifier (DeviceID)	0X0312
Module swapping during operation (hot swapping) Isochronous mode Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 To A Portal configurable/integrated from version PROFINET from GSD version/GSD revision V5.5 SP3 /- PROFINET from GSD version/GSD revision V2.3 /- Configuration control via user data No via dataset No Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Short-circuit protection Yes Mains buffering Mains/voltage failure stored energy time Mains/voltage failure stored energy time Tourrent consumption (rated value) Current consumption, max. Inrush current, max. Power Insert ones Infect ones Power Infect ones Power Ioss Power loss Power loss Power loss, typ. Address area	Product function	
● Isochronous mode Engineering with ● STEP 7 TIA Portal configurable/integrated from version ● STEP 7 configurable/integrated from version ● PROFINET from GSD version/GSD revision V2.3 / - Configuration control via user data No via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering ● Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Pt Outher the backplane bus 14 W Power loss Power loss, typ. Address area	I&M data	Yes; I&M0 to I&M3
Engineering with STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision No via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) PReverse polarity protection Short-circuit protection Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Power Infeed power to the backplane bus Power loss ypp. Address area	 Module swapping during operation (hot swapping) 	No
STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFINET from GSD version/GSD revision V2.3 / - Configuration control via user data No via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Power Infeed power to the backplane bus Power loss Power loss, typ. Address area	Isochronous mode	No
version • STEP 7 configurable/integrated from version • PROFINET from GSD version/GSD revision V2.3 /- Configuration control via user data No via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering • Mains/voltage failure stored energy time Current consumption (rated value) Input current Current consumption, max. Inrush current, max. Pewer Infeed power to the backplane bus Power loss Power loss, typ. Address area	Engineering with	
PROFINET from GSD version/GSD revision V2.3 /- Configuration control via user data No Via dataset No Supply voltage Rated value (DC) permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Yes Short-circuit protection Yes Mains buffering Mains voltage failure stored energy time Input current Current consumption (rated value) 1 A Current consumption (rated value) 1 A Current consumption, max. 1.7 A Inrush current, max. 2.8 A I*t 0.04 A²-s Power Infeed power to the backplane bus Power loss Power loss, typ. Address area		V15.1 with HSP 187
Via user data Via user data No Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering • Mains/voltage failure stored energy time Current consumption (rated value) Current consumption, max. Inrush current, max. Inrush current, max. Inrush current, max. Infeed power to the backplane bus Power loss Power loss, typ. Address area	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -
via user data No via dataset No Supply voltage 24 V Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Short-circuit protection Yes Mains buffering 5 ms • Mains/voltage failure stored energy time 5 ms Input current 1 A Current consumption (rated value) 1 A Current consumption, max. 1.7 A Inrush current, max. 2.8 A I²t 0.04 A²-s Power Infeed power to the backplane bus 14 W Power loss Power loss, typ. Address area	 PROFINET from GSD version/GSD revision 	V2.3 / -
Via dataset Supply voltage Rated value (DC)	Configuration control	
Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Pt O.04 A ² ·s Power Infeed power to the backplane bus Power loss, typ. Address area	via user data	No
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Inrush current, max. Inrush current, max. Interest power to the backplane bus Power loss Power loss, typ. 3 W Address area	via dataset	No
permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Inrush current, max. If a consumption, max. Inrush current, max. Inrush current, max. Infeed power to the backplane bus Power loss Power loss, typ. Address area	Supply voltage	
permissible range, upper limit (DC) Reverse polarity protection Short-circuit protection Yes Mains buffering • Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. I²t 0.04 A²·s Power Infeed power to the backplane bus Power loss, typ. 3 W Address area	Rated value (DC)	24 V
Reverse polarity protection Short-circuit protection Yes Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. It Out A ² ·s Power Infeed power to the backplane bus Power loss, typ. Address area	permissible range, lower limit (DC)	19.2 V
Short-circuit protection Mains buffering Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. I²t Oud A²·s Power Infeed power to the backplane bus Power loss Power loss, typ. Address area	permissible range, upper limit (DC)	28.8 V
Mains buffering ● Mains/voltage failure stored energy time 5 ms Input current Current consumption (rated value) 1 A Current consumption, max. 1.7 A Inrush current, max. 2.8 A I²t 0.04 A²·s Power Infeed power to the backplane bus 14 W Power loss Power loss, typ. 3 W Address area	Reverse polarity protection	Yes
● Mains/voltage failure stored energy time Input current Current consumption (rated value) Current consumption, max. Inrush current, max. I²t Power Infeed power to the backplane bus Power loss Power loss, typ. Address area	Short-circuit protection	Yes
Input current Current consumption (rated value) Current consumption, max. 1.7 A Inrush current, max. 1.2 A Inush current to the backplane bus Infeed power to the backplane bus Power loss Power loss, typ. Address area	Mains buffering	
Current consumption (rated value) Current consumption, max. Inrush current, max. I²t O.04 A²-s Power Infeed power to the backplane bus Power loss Power loss, typ. Address area	 Mains/voltage failure stored energy time 	5 ms
Current consumption, max. Inrush current, max. I²t O.04 A²·s Power Infeed power to the backplane bus 14 W Power loss Power loss, typ. Address area	Input current	
Inrush current, max. I²t 0.04 A²·s Power Infeed power to the backplane bus 14 W Power loss Power loss, typ. 3 W Address area	Current consumption (rated value)	1 A
I²t 0.04 A²·s Power Infeed power to the backplane bus 14 W Power loss Power loss, typ. 3 W Address area	Current consumption, max.	1.7 A
Power Infeed power to the backplane bus 14 W Power loss Power loss, typ. 3 W Address area	Inrush current, max.	2.8 A
Infeed power to the backplane bus Power loss Power loss, typ. Address area	l²t	0.04 A ² ·s
Power loss Power loss, typ. 3 W Address area	Power	
Power loss, typ. 3 W Address area	Infeed power to the backplane bus	14 W
Address area	Power loss	
	Power loss, typ.	3 W
Address space per module	Address area	
	Address space per module	

Address space per module, max.	64 byte; per input / output
Address space per station	
Address space per station, max.	64 byte; per input / output
Hardware configuration	
Integrated power supply	Yes
System power supply can be plugged in to left of IM	No
Number of permissible power segments	1
Rack	
Modules per rack, max.	12; I/O modules
Submodules	
Number of submodules per station, max.	108; 9 submodules / I/O modules
Interfaces	
Number of PROFINET interfaces	1; 2 ports (switch) RJ45
1. Interface	
Interface types	
 RJ 45 (Ethernet) 	Yes
 Number of ports 	2
 integrated switch 	Yes
BusAdapter (PROFINET)	No
Protocols	
PROFINET IO Device	Yes
Open IE communication	Yes
Media redundancy	Yes
Interface types	
RJ 45 (Ethernet)	
Transmission procedure	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
• 100 Mbps	Yes
Autonegotiation	Yes
Autorossing	Yes
Autocrossing	163
Protocols	
Protocols PROFINET IO Device	
PROFINET IO Device	
PROFINET IO Device Services	No
PROFINET IO Device Services — IRT	No No
PROFINET IO Device Services — IRT — PROFIenergy	No
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup	No No
PROFINET IO Device Services — IRT — PROFIenergy — Prioritized startup — Shared device	No No Yes
PROFINET IO Device Services — IRT — PROFIenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device,	No No
PROFINET IO Device Services — IRT — PROFIenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max.	No No Yes
PROFINET IO Device Services — IRT — PROFIenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode	No No Yes 2
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2)	No No Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy	No No Yes 2
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP	No No Yes 2
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD	No No Yes 2
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication	No No Yes 2 No Yes No
PROFINET IO Device Services — IRT — PROFIenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP	No No Yes 2 No Yes No Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP	No No Yes 2 No Yes No Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP	No No Yes 2 No Yes No Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode	No No Yes 2 No Yes No Yes Yes Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance	No No Yes 2 No Yes No Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information	No No Yes 2 No Yes No Yes Yes Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator	No No Yes 2 No Yes No Yes Yes Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator Alarms	No No Yes 2 No Yes No Yes Yes Yes Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator Alarms Diagnostics function	No No Yes 2 No Yes No Yes Yes Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator Alarms Diagnostics function Diagnostics indication LED	No No Yes 2 No Yes No Yes Yes Yes Yes Yes Yes Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator Alarms Diagnostics function Diagnostics indication LED • RUN LED	No No Yes 2 No Yes No Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator Alarms Diagnostics function Diagnostics indication LED • RUN LED • ERROR LED	No No Yes 2 No Yes No Yes
PROFINET IO Device Services — IRT — PROFlenergy — Prioritized startup — Shared device — Number of IO Controllers with shared device, max. Redundancy mode • PROFINET system redundancy (S2) Media redundancy — MRP — MRPD Open IE communication • TCP/IP • SNMP • LLDP Isochronous mode Equidistance Interrupts/diagnostics/status information Status indicator Alarms Diagnostics function Diagnostics indication LED • RUN LED	No No Yes 2 No Yes No Yes

Potential separation	
between backplane bus and electronics	No
between PROFINET and all other circuits	Yes; 1 500 V AC
between supply and all other circuits	No
Permissible potential difference	
between different circuits	Safety extra low voltage SELV
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Network loading class	2
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C; From FS03
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C; From FS03
 vertical installation, max. 	40 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	236 g

4/26/2021

last modified: