

SIPLUS ET 200M IM153-2 (\*BA02) T1 RAIL -25 ... +55°C T1 with 70°C for 10 min with conformal coating based on 6ES7153-2BA10-0XB0 . Connection ET 200M IM 153-2 High Feature for max. 12 S7-300 modules with redundancy capability, Timestamping suitable for isochronous mode Operation New features: up to 12 modules can be used Slave Initiative for Drive ES



### General information

Product type designation	IM 153-2
Firmware version	V6.0.0
Vendor identification (VendorID)	801Eh

### Supply voltage

Rated value (DC)	
<ul style="list-style-type: none"> <li>• 24 V DC</li> </ul>	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2,5 A

### Mains buffering

<ul style="list-style-type: none"> <li>• Mains/voltage failure stored energy time</li> </ul>	5 ms
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### Input current

Current consumption, max.	650 mA; with 24 V DC supply
Inrush current, typ.	3 A
$I^2t$	0.1 A <sup>2</sup> ·s

### Output current

for backplane bus (5 V DC), max.	1.5 A
<b>Power loss</b>	
Power loss, typ.	5.5 W
<b>Address area</b>	
Addressing volume	
• Inputs	244 byte
• Outputs	244 byte
<b>Hardware configuration</b>	
Number of modules per DP slave interface, max.	12
<b>Time stamping</b>	
Accuracy	1 ms; 1ms at up to 8 modules; 10ms at up to 12 modules
Number of message buffers	15
Messages per message buffer	20
Number of stampable digital inputs, max.	128; Max. 128 signals/station; max. 32 signals/slot
Time format	RFC 1119
Time resolution	0.466 ns
Time interval for transmitting the message buffer if a message is present	1 000 ms
Time stamp on signal change	rising / falling edge as signal entering or exiting
<b>Interfaces</b>	
Transmission procedure	RS 485
<b>PROFIBUS DP</b>	
• Node addresses	1 to 125 permitted
• automatic detection of transmission rate	Yes
• Output current, max.	70 mA
• Transmission rate, max.	12 Mbit/s
• SYNC capability	Yes
• FREEZE capability	Yes
• Direct data exchange (slave-to-slave communication)	Yes; as publisher with all IO, as subscriber with F-IO only
• Design of electrical connection of PROFIBUS interface	9-pin sub D
<b>1. Interface</b>	
<b>PROFIBUS DP slave</b>	
• GSD file	SI05801E.GSG
• automatic baud rate search	Yes
<b>Protocols</b>	
Bus protocol/transmission protocol	PROFIBUS DP to EN 50170
<b>Protocols (Ethernet)</b>	
• TCP/IP	No

<b>Potential separation</b>	
Potential separation exists	Yes
<b>Isolation</b>	
Isolation tested with	Isolation voltage 500 V
<b>Degree and class of protection</b>	
IP degree of protection	IP20
<b>Standards, approvals, certificates</b>	
Railway application	
• EN 50155	Yes; T1 Category 1 Class A/B horizontal mounting position
<b>Ambient conditions</b>	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax; the rated temperature range of -25 ... +55 °C (T1) applies for the use on railway vehicles according to EN50155
• At cold restart, min.	-25 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
<b>Resistance</b>	
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on land craft, rail vehicles and special-purpose vehicles	
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *

Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!

Configuration	
Configuration software	
• STEP 7	Yes; STEP 7 / COM PROFIBUS / non-Siemens tools via GSD file

Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm

Weights	
Weight, approx.	360 g
<b>last modified:</b>	09/12/2019