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Data sheet 6ES7241-1EA50-0XB0



SIMATIC S7-1200 G2: CM 1241 communication module; interfaces: RS232/422/485, with push-in terminal block

General information	
Product type designation	CM 1241 RS 232 / 422 / 485
Input current	
from backplane bus 5 V DC, typ.	170 mA
Power loss	
Power loss, typ.	0.9 W
Interfaces	
Interfaces/bus type	RS 232 (full duplex) / 422 / 485
Number of interfaces	1
Point-to-point connection	
● Cable length, max.	1 000 m; RS 232 10 m shielded max., RS 422/485 1 000 m shielded max.
Integrated protocol driver	
— Freeport	Yes
— ASCII	Yes; Available as library function
— Modbus RTU master	Yes
— Modbus RTU device	Yes
— USS	Yes; Available as library function
Interface types	
RS 232	
● Transmission rate, max.	115.2 kbit/s
RS 485	
● Transmission rate, max.	250 kbit/s
Protocols	
Integrated protocols	
Freeport	
— Telegram length, max.	4 kbyte
— Bits per character	7 or 8
— Number of stop bits	1 (Standard), 2
— Parity	no parity (standard); even, odd, mark (parity bit always 1); space (parity bit always 0)
Modbus RTU master	
— Address area	1 through 65535 (Standard Modbus addressing)
— max. number of devices	247; slave numbers 1 through 247, per MODBUS network segment maximum 32 devices, additional repeaters needed to expand the network to maximum configuration
Modbus RTU device	
— Address area	1 through 65535 (Standard Modbus addressing)
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnostics indication LED	

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● DIAG LED	Yes
● for status of the outputs	Yes
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
CSA approval	No
UL approval	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	No
Ambient conditions	
Free fall	
● Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
● horizontal installation, min.	-20 °C
● horizontal installation, max.	60 °C; at max. voltages and max. specification
● vertical installation, min.	-20 °C
● vertical installation, max.	50 °C; at max. voltages and max. specification
Ambient temperature during storage/transportation	
● min.	-40 °C
● max.	70 °C
Air pressure acc. to IEC 60068-2-13	
● Operation, min.	540 hPa
● Operation, max.	1 140 hPa
● Storage/transport, min.	540 hPa
● Storage/transport, max.	1 140 hPa
Altitude during operation relating to sea level	
● Installation altitude, min.	-1 000 m
● Installation altitude, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	
● Operation, max.	95 %; no condensation
Vibrations	
● Vibration resistance during operation acc. to IEC 60068-2-6	3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz
● Operation, tested according to IEC 60068-2-6	Yes
Shock testing	
● tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
Pollutant concentrations	
● SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60 % condensation-free
Mechanics/material	
Enclosure material (front)	
● Plastic	Yes
Dimensions	
Width	30 mm
Height	125 mm
Depth	100 mm
Weights	
Weight, approx.	178 g
Classifications	

	Version	Classification
eClass	16	27-24-22-08
eClass	14	27-24-22-08
eClass	12	27-24-22-08
eClass	9.1	27-24-22-08

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eClass	9	27-24-22-08
eClass	8	27-24-22-08
eClass	7.1	27-24-22-08
eClass	6	27-24-22-08
ETIM	10	EC001423
ETIM	9	EC001423
ETIM	8	EC001423
ETIM	7	EC001423
IDEA	4	3564
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Miscellaneous

General Product Approval | EMV | For use in hazardous locations

Manufacturer Declaration

China RoHS

For use in hazardous locations

CCC-Ex

CCC-Ex

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