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Data sheet 6FE1242-6TM20-0BB1



SIMATIC ET 200SP TM ECC PL ST load controller for conductive charging of electric vehicles according to DIN SPEC 70121 / ISO15118 charge operating mode 4 CCS combined charging temp.: -30 °C to 60 °C 1x Control Pilot including Powerline Green Phy 1x Plug Present / Proximity Pilot 1x Digital Out TRIP function as open collector 1x Digital Out (DQ P) as open collector suitable for BU type BU20-P12+A0+4B or BU type BU20-P12+A4+0B

General information	
Product type designation	ECC PL ST
HW functional status	1
Firmware version	V1.0.5
● FW update possible	Yes
Product description	Technology module for the conductive charging of electric vehicles according to DIN 70121
usable BaseUnits	BU type B0, B1
Mean time between failures (MTBF)	114.14 a; @ 25 °C
Number of channels	1; Acc. to IEC 61851-1 Mode 4 and DIN SPEC 70121
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	No
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	STEP 7 V16 or higher
Installation type/mounting	
Mounting type	standard rail
Mounting position	Horizontal, vertical
Supply voltage	
Type of supply voltage	DC
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; against destruction
Load voltage L+	
● 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
Input current	
Current consumption, typ.	40 mA
Current consumption, max.	100 mA
Digital inputs	
Number of digital inputs	0
Digital inputs, parameterizable	No
Cable length	
● shielded, max.	10 m
Digital outputs	
Type of digital output	Transistor
Number of digital outputs	2; 1x digital out TRIP function as open collector, 1x digital out (DQ P) as open

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	collector
Current-sinking	Yes
short-circuit proof	Yes
Digital output functions, parameterizable	
● PWM output	Yes; acc. to DIN SPEC 70121 and ISO 15118
— Number, max.	1; 1 per channel
— Cycle duration, parameterizable	No; 1 kHz
● Connection of a DC motor	No; Only fixed charging cables are permitted for DC charging systems
Switching capacity of the outputs	
● with resistive load, max.	0.6 A; Per digital output
Output voltage	
● Type of output voltage	DC
● Rated value (DC)	24 V
Cable length	
● unshielded, max.	10 m
Analog inputs	
Number of analog inputs	1; plug present according to IEC 61851
Analog outputs	
Number of analog outputs	1
Type of analog output	Control pilot including Powerline Green Phy, acc. to DIN SPEC 70121
Connection of a DC motor	No
Protocols	
Bus communication	Yes; Backplane bus
Vehicle communication according to IEC 61851	Yes; Mode 4
Interrupts/diagnostics/status information	
Alarms	
● Diagnostic alarm	Yes
Diagnoses	
● Monitoring the supply voltage	No; Supply voltage diagnostics
● Wire-break	No
● Short-circuit	No
Diagnostics indication LED	
● ERROR LED	No
● Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
● Channel status display	Yes; green LED
● for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
● between the channels	No; Only one channel is available
● between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC
Degree of pollution	2
EMC	
Electrostatic discharge acc. to IEC 61000-4-2	4 kV contact discharge / 8 kV air discharge
Field-related interference acc. to IEC 61000-4-3	10 V/m (80 ... 1 000 MHz), 3 V/m (1.4 ... 2.0 GHz), 1 V/m (2.0 ... 2.7 GHz)
Conducted interference due to burst acc. to IEC 61000-4-4	2 kV signal lines
Conducted interference due to surge acc. to IEC 61000-4-5	On DC supply lines: 0.5 kV symmetrical and asymmetrical
Conducted interference due to high-frequency radiation acc. to IEC 61000-4-6	10 V (0.15 ... 80 MHz)
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
Certificate of suitability	CE / RCM / EAC / UL / KC
Ambient conditions	
Ambient temperature during operation	
● min.	-30 °C
● max.	60 °C
● horizontal installation, min.	-30 °C
● horizontal installation, max.	60 °C

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● vertical installation, min.	-30 °C
● vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
● Storage, min.	-40 °C
● Storage, max.	70 °C
● Transportation, min.	-40 °C
● Transportation, max.	70 °C
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
● Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
● Operation, min.	5 %
● Operation, max.	95 %; no condensation
Vibrations	
● Vibration resistance during operation acc. to IEC 60068-2-6	10 ... 58 Hz / 0.075 mm, 58 ... 150 Hz / 1 g
Shock testing	
● Shock resistance acc. to IEC 60068-2-27	15 g / 11 ms
Decentralized operation	
to SIMATIC S7-1500	Yes
Dimensions	
Width	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	51 g
Other	
Note:	The Tone Mask of the Green Phy defined in DIN 70121 for North America applies

Classifications

	Version	Classification
eClass	14	27-14-47-03
eClass	12	27-14-47-03
eClass	9.1	27-14-47-03
eClass	9	27-14-47-03
ETIM	9	EC002889
ETIM	8	EC002889
ETIM	7	EC002889
IDEA	4	1554
UNSPSC	15	26-11-17-29

Approvals / Certificates

General Product Approval	EMV	Radio Equipment Type Approval Certificate
CE EG-Konf. UKCA UL	KC RCM	Confirmation

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