

SIPLUS S7-1500 F DQ 8x24VDC 2A T1 RAIL -25 ... +55°C T1 70°C for 10 min with conformal coating BasedOn: 6ES7526-2BF00-0AB0 . FAILSAFE digital output module F-DQ 8X24VDC 2A PPM PROFISAFE; 35MM WIDTH; up to PL E (ISO 13849-1)/ SIL3 (IEC 61508)



Figure similar

General information	
Product type designation	F-DQ 8x24VDC/2A PPM
Product function	
• I&M data	Yes; I&M0 to I&M3
Operating mode	
• DQ	Yes
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
Input current	
Current consumption (rated value)	110 mA; without load
Output voltage	
Rated value (DC)	24 V
Power	

Power available from the backplane bus	0.8 W
Power loss	
Power loss, typ.	11 W
Address area	
Address space per module	
• Address space per module, max.	6 byte
Hardware configuration	
Automatic encoding	Yes
• Electronic coding element type F	Yes
Digital outputs	
Number of digital outputs	8
Current-sinking	Yes
Current-sourcing	Yes
Short-circuit protection	Yes
Open-circuit detection	Yes
• Response threshold, typ.	8 mA
Overload protection	Yes
• Response threshold, typ.	2.9 A
Limitation of inductive shutdown voltage to	PM-switching: -24 V + (-47 V), PP-switching: -24 V
Switching capacity of the outputs	
• with resistive load, max.	2 A
• on lamp load, max.	10 W
Load resistance range	
• lower limit	12 Ω
• upper limit	2 000 Ω
Output voltage	
• for signal "1", min.	24 V; L+ (-0.5 V)
Output current	
• for signal "1" rated value	2 A
• for signal "0" residual current, max.	0.5 A; Current-sourcing, or current sourcing and sinking switches individually, current sinking: max. 1 mA
Switching frequency	
• with resistive load, max.	30 Hz
• with inductive load, max.	0.1 Hz
• on lamp load, max.	10 Hz
Total current of the outputs	
• Current per channel, max.	2 A
Total current of the outputs (per module)	
horizontal installation	
— up to 40 °C, max.	16 A
— up to 60 °C, max.	8 A

vertical installation	
— up to 40 °C, max.	8 A
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	500 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	No
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes
• Group error	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red LED
• Monitoring of the supply voltage (PWR-LED)	Yes
• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; Red LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
Isolation	
Isolation tested with	707 V DC (type test) and according to EN 50155 (routine test)
Standards, approvals, certificates	
Railway application	
• EN 50121-3-2	Yes; EMC for rail vehicles
• EN 50121-4	Yes; EMC for signal and telecommunications systems
• EN 50124-1	Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
• EN 50125-1	Yes; Rail vehicles - see ambient conditions
• EN 50125-2	Yes; Stationary electrical equipment - see ambient conditions
• EN 50125-3	Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
• EN 50155	Yes; Rail vehicles - temperature class T1, horizontal mounting position, salt spray Class ST2

<ul style="list-style-type: none"> • EN 61373 • Fire protection acc. to EN 45545-2 	<p>Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B</p> <p>Yes; Rail vehicles - verification on request</p>
Highest safety class achievable in safety mode	
<ul style="list-style-type: none"> • SIL in accordance with EN 50126, 50128, 50129 	SIL 2; a higher safety integrity level is possible if tested and approved for the specific application under consideration of all local regulations.
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • horizontal installation, min. • horizontal installation, max. 	<p>-25 °C; = Tmin</p> <p>60 °C; = Tmax; +70 °C for 10 min (T1 acc. to EN 50155)</p>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude 	<p>2 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p>
Relative humidity	
<ul style="list-style-type: none"> • With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
<ul style="list-style-type: none"> — Resistant to commercially available coolants and lubricants 	Yes
Use in stationary industrial systems	
<ul style="list-style-type: none"> — to biologically active substances according to EN 60721-3-3 — to chemically active substances according to EN 60721-3-3 — to mechanically active substances according to EN 60721-3-3 	<p>Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request</p> <p>Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *</p> <p>Yes; Class 3S4 incl. sand, dust, *</p>
Use on land craft, rail vehicles and special-purpose vehicles	
<ul style="list-style-type: none"> — to biologically active substances according to EN 60721-3-5 — to chemically active substances according to EN 60721-3-5 — to mechanically active substances according to EN 60721-3-5 	<p>Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request</p> <p>Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 50155 (ST2); *</p> <p>Yes; Class 5S3 incl. sand, dust; *</p>
from supply voltage 1L+	
<ul style="list-style-type: none"> — Note regarding classification of environmental conditions acc. to EN 60721 	* The supplied plug covers must remain in place over the unused interfaces during operation!
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	

Weight, approx.

300 g

Other

Note:

For use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A Online Support article 109736776

last modified:

05/18/2018