SIEMENS

Data sheet

6ES7142-6BF50-0AB0



SIMATIC DP, ET 200ECO PN, 8 DO 24 V DC/0.5 A; 4xM12, Duplicate assignment, 1 load voltage supply DO; Degree of protection IP67

Figure similar

General information		
Vendor identification (VendorID)	002AH	
Device identifier (DeviceID)	0306H	
Supply voltage		
Rated value (DC)	24 V	
Reverse polarity protection	Yes	
power supply according to NEC Class 2 required	Yes	
Load voltage 1L+		
 Rated value (DC) 	24 V	
 permissible range, lower limit (DC) 	20.4 V	
 permissible range, upper limit (DC) 	28.8 V	
Reverse polarity protection	Yes	
Load voltage 2L+		
 Rated value (DC) 	24 V	
 permissible range, lower limit (DC) 	20.4 V	
 permissible range, upper limit (DC) 	28.8 V	
 Reverse polarity protection 	Yes	
Input current		
Current consumption, typ.	100 mA	
from supply voltage 1L+, max.	4 A	
from load voltage 1L+ (unswitched voltage)	100 mA	
from load voltage 2L+, max.	4 A	
Power loss		
Power loss, typ.	3 W	
Digital outputs		
Number of digital outputs	8	
in groups of	8	
Short-circuit protection	Yes	
Response threshold, typ.	0.7 A	
Limitation of inductive shutdown voltage to	Typ. (L1+, L2+) -47 V	
Controlling a digital input	Yes	
Switching capacity of the outputs		
on lamp load, max.	5 W	
Output current		
for signal "1" rated value	0.5 A	
for signal "0" residual current, max.	1.5 mA	
Parallel switching of two outputs		
• for uprating	No	
 for redundant control of a load 	Yes	

Switching frequency	
with resistive load, max.	100 Hz
 with inductive load, max. 	0.5 Hz
on lamp load, max.	1 Hz
Total current of the outputs (per group)	
all mounting positions	
— up to 60 °C, max.	4 A
Cable length	
• unshielded, max.	30 m
Interfaces	
Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1
1. Interface	
Interface types	
• integrated switch	Yes
Interface types	
M12 port	Yes
Autoropoing	Yes
Autocrossing Transmission rate, may	
Transmission rate, max. Protocolo	100 Mbit/s
Protocols	
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
PROFIsafe	No
PROFINET IO Device	
Services	
— IRT with the option "high flexibility"	Yes
— Prioritized startup	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes
Open IE communication	
• TCP/IP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
• ping	Yes
• ARP	Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm	Yes
Diagnoses	
Diagnostic information readable	Yes
Monitoring the supply voltage	Yes; green "ON" LED
Wire-break in actuator cable	Yes
Short-circuit	Yes
Group error Retartial constation	Yes; Red/yellow "SF/MT" LED
Potential separation	Ver
between the load voltages	Yes
between load voltage and all other switching components	No
between Ethernet and electronics	Yes
Potential separation channels	
between the channels	No
Isolation	
tested with	
• 24 V DC circuits	707 V DC (type test)
Test voltage for interface, rms value [Vrms]	1 500 V; According to IEEE 802.3
Degree and class of protection	
IP degree of protection	IP65/67
in degree of protection	

Standards, approvals, certificates		
Suitable for safety-related tripping of standard modules	Yes	
Highest safety class achievable for safety-related tripping of standard modules		
 Performance level according to ISO 13849-1 	PL d	
 Category according to ISO 13849-1 	Cat. 3	
 SIL acc. to IEC 62061 	SIL 2	
 remark on safety-oriented shutdown 	https://support.industry.siemens.com/cs/de/en/view/39198632	
Use in hazardous areas		
 Explosion protection category for gas 	ATEX II 3G Ex nA II T4	
 Explosion protection category for dust 	ATEX II 3D Ex tc IIIC T90°C Dc	
connection method		
Design of electrical connection	4/5-pin M12 circular connectors	
Dimensions		
Width	30 mm	
Height	200 mm	
Depth	49 mm	
Weights		
Weight, approx.	550 g	

5/22/2024

last modified: