

PRODUCT PROFILE

Bulletin 193/592 E1 Plus

PROFIBUS Communication Module

Advantages

- **Compact size**
 - Direct mounting to the left side of the current sensing Bulletin 193/592 E1 Plus Overload Relays only adds 22 mm to the width
- **Simplifies control**
 - Side-mount modules electronically interface with the E1 Plus Overload Relay so that all control circuit connections are made at the E1 Plus Overload Relay terminals
- **Includes integrated I/O**
 - 2 inputs
 - 1 output
- **Provides operational and diagnostic data**
 - Average motor current
 - Percentage of thermal capacity usage
 - Device status
 - Trip and warning identification
 - Trip history (five previous trips)
- **Expands protective functions**
 - Overload warning
 - 1...100% TCU
 - Jam protection
 - Trip setting 150...600% FLA
 - Trip delay 0.5...25 seconds
 - Warning setting 100...600% FLA
 - Underload warning
 - 20...100% FLA



Overview

Seamless deployment of motor starters on field bus based communication architectures is cost effectively accomplished with the E1 Plus Electronic Overload Relay and the optional PROFIBUS Communication Module accessory. Streamline your processes with better control, protection, monitoring and diagnostic capabilities for improved operating efficiency.

- **PROFIBUS network communication**
 - Delivers direct access to motor performance and diagnostic data on a field bus based network in addition to seamless control
 - The PROFIBUS communication module supports both PROFIBUS DP-V0 and DP-V1
- **Protective functions**
 - In addition to the standard E1 Plus protection of overload and phase loss, the PROFIBUS side-mount module offers expanded protective functions including overload warning, jam protection, and underload warning.
- **Operational and diagnostic data**
 - The E1 Plus side-mount module monitors the motor current by electronically interfacing to the E1 Plus overload relay's current-sensing circuit. As a result, the side-mount module is able to identify the cause of the trip and provides warnings for overload, underload, phase loss, and jam. The PROFIBUS side-mount module continuously monitors the motor's performance for average motor current, thermal capacity usage, and device status. The PROFIBUS module also provides a trip history for the five previous trips.
- **Integrated I/O**
 - Provides convenient local termination of motor-related inputs and outputs, simplifying the control architecture.

The Allen-Bradley® Bulletin 193/592 E1 Plus Electronic Overload Relays are the industry's first modular self-powered devices. Through the use of the optional PROFIBUS side-mount modules, functionality of the E1 Plus Overload Relay can be cost effectively expanded by adding PROFIBUS communication while improving motor operation and protection.

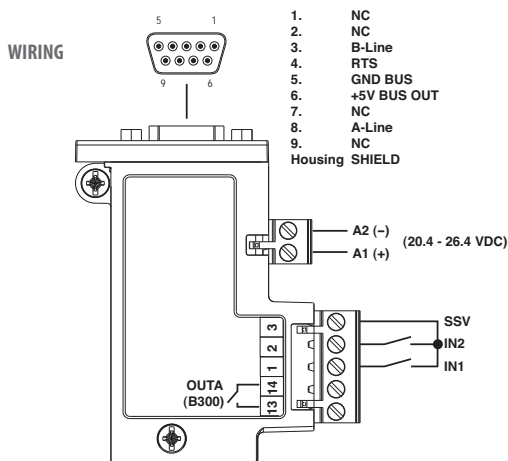
Specifications

ELECTRICAL		
Power Supply Ratings:		
Rated Supply Voltage	<i>Us</i>	24V DC
Rated Operating Range	<i>Ue</i>	20.4 - 26.4
Rated Supply Current	<i>Ie</i>	0.1 A
Maximum Surge Current at Power-Up		2.5 A
Maximum Power Consumption		2.5 W
Output Relay Ratings:		
Terminals OUT A:		13/14
Type of Contacts		Form A SPST - NO
Rated Thermal Current	<i>I_{the}</i>	5 A
Rated Insulation Voltage	<i>Ui</i>	300V AC
Rated Operating Voltage	<i>Ue</i>	240V AC
Rated Operating Current	<i>Ie</i>	3 A (at 120V AC), 1.5 A (at 240V AC) 0.25 A (at 110V DC), 0.1 A (at 220V DC)
Minimum Operating Current		10 mA at 5V DC
Rating Designation		B300
Utilization Category		AC-15
Resistive Load Rating (p.f.=1.0)		5 A, 250V DC 5 A, 30V DC
Inductive Load Rating (p.f.=0.4), (L/R=7 ms)		2 A, 250V AC 2 A, 30V DC
Short Circuit Current Rating		1,000 A
Recommended Control Circuit Fuse		KTK-R-6 (6 A, 600V)
Input Ratings:		
Terminals IN1: IN2: SSV (Sensor Supply Voltage)		1 2 3
Supply Voltage (Provided by module)		20.4 - 26.4V DC
Type of Inputs		Current Sinking

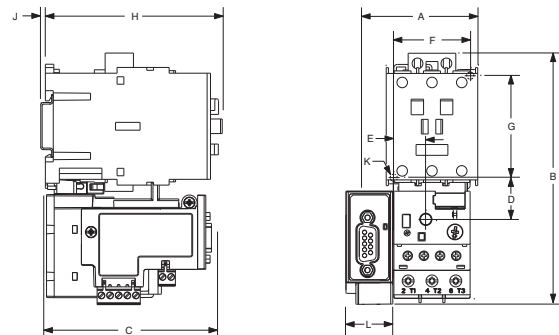
PROFIBUS	
Profibus Communication:	
Baud Rate	9.6 k, 19.2 k, 45.45 k, 93.75 k, 187.5 k, 500 k, 1.5 M, 3 M, 6 M, 12 M
Auto-Baud Rate identification	Yes
DP-V0 (Cyclic data exchange)	Yes
DP-V1 (Acyclic services)	Yes
DP-V2 (Acyclic services)	No
Set Slave Address (SSA) support	Yes
Jam Protection:	
Trip Level	150...600% FLA
Trip Delay	0.1...25.0 sec.
Inhibit	0...250 sec.
Standards:	
UL 508	
CSA 22.2, No. 14	
EN 60947-4-1	

MECHANICAL	
Environmental Ratings:	
Ambient Temperature <i>T_{amb}</i> Storage Operating (Open) (Enclosed)	-40...+85°C (-40...+185°F) -20...+60°C (-4...+140°F) -20...+40°C (-4...+104°F)
Humidity Operating Damp Heat - Steady State Damp Heat - Cyclic	5...95% non-condensing per IEC 68-2-3 per IEC 68-2-30
Maximum Altitude	2000 m
Degree of Protection	IP20

Diagrams



DIMENSIONS



Operating Contactor Cat. No.	E1 Plus Cat. No.	A	B	C	D	E	F	G	H	J	K	L	
100-C09, -C12, -C16, -C23	193*-EE_B	mm (in)	67 (2.64)	148 (5.83)	85.2 (3.35)	24.5 (.96)	13.9 (.55)	35 (1.38)	60 (2.36)	86.5 (3.40)	2 (.08)	4.5 (.17)	22 (.86)
100-C30, -C37	193*E_E_D	mm (in)	67 (2.64)	148 (5.83)	101.2 (3.98)	24.5 (.96)	13.9 (.55)	35 (1.38)	60 (2.36)	104 (4.09)	2 (.08)	4.5 (.17)	22 (.86)
100-C43		mm (in)	71.5 (2.82)	148 (5.83)	101.2 (3.98)	24.5 (.96)	18.4 (.74)	45 (1.77)	60 (2.36)	104 (4.09)	2 (.08)	4.5 (.17)	22 (.86)
100-C60, -C72, -C85	193*-EE_E	mm (in)	94 (3.70)	191.6 (7.54)	120.4 (4.74)	29 (1.14)	23.8 (.94)	55 (2.16)	100 (3.94)	126 (4.94)	2 (.08)	5.4 (.21)	22 (.86)

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