



Dynamic Series Relay Module



CAUTION

— Do not perform any service or maintenance other than as described in this specification. Injury or damage to the tool may result.

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1 Introduction

The TE Connectivity Dynamic Series Relay Module (DSRM) allows for the streamlined deployment of SR Series Force Guided Relays into control cabinet and DIN Rail applications. The Relay Modules provide relay contact interfacing via the standard Dynamic 3100 series headers for coil and NC contact feedback, and Dynamic 3200 series headers for relay load contacts.

Dynamic Series headers and connectors offer reliable, robust, poka-yoke connection, decreasing installation time and reducing the likelihood of miswiring compared to screw terminal type headers.

1.1 Applications

The DSRM is suitable for any control cabinet relay application which requires a force guided relay and is built on a standard IEC/EN 60715 DIN Rail.

The error free installation via Dynamic Series headers, operational feedback with on-board LED, and high performing TE Connectivity relay make the Dynamic Series Relay Module ideal for:

- Industrial control cabinet applications
- Robotics and machine control
- DIN rail applications

1.2 Solution Overview

Figure 1 shows the system components of the 2348625-2 (2 Relay Module) and 2348625-4 (4 Relay Module). For further detail on system components, refer to the product drawings.

1	End Plate Assembly
2	PCBA Carrier (2 Relay Module)
3	PCBA Carrier (4 Relay Module)
4	SR4 Series Force Guided Relay
5	Dynamic 3100 (8 Position)
6	Dynamic 3100 (16 Position)
7	Dynamic 3200 (6 Position)
8	End Plate Mounting Screw

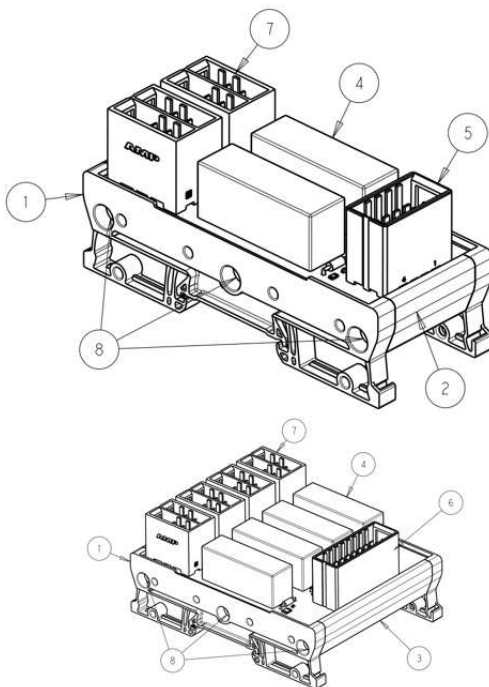


Figure 1. Module Overview

1.3 Terminology

Table 1. Terminology

Term/Acronym	Meaning
IEC	International Electrotechnical Commission
EN	European Norm / European Standard
End Plate Assembly	The end caps of the assembly which are attached to the PCBA carrier via mounting screws. These end plate assemblies include the DIN Rail mounting interface features.
PCBA Carrier	Extruded carrier component which holds PCBA in place in final assembly.
End Plate Mounting Screw	Screw used for fixing the End Plate Assembly to the PCBA Carrier. Only the screw defined in the associated product drawing should be used.
PCBA	Printed Circuit Board Assembly. A PCBA comprises a printed circuit board (PCB) and all of the installed components to create a functional assembly.

1.4 Reference Material

- Customer Assistance

Reference Product Base Part Number 2348625 is representative of the Dynamic Series Relay Module. Use of these numbers will identify the product line and help to locate product and tooling information when visiting www.te.com or calling the product information number.

- Drawings

Customer drawings for product part numbers are available from www.te.com. Information contained in the customer drawing takes priority. Reference drawing number C-2348625.

1.5 Storage

- Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

- Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

Alkalies	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites		Tartrates

1.6 Cleaning



CAUTION

— Cleaning products that can erode the plastic parts of the carrier assembly must not be used. Reference the product drawing for carrier and end plate material information.

2 Functional Overview

Figure 2 shows a block diagram of the functional blocks of the DSRM. The following sections overview the capability of each block.

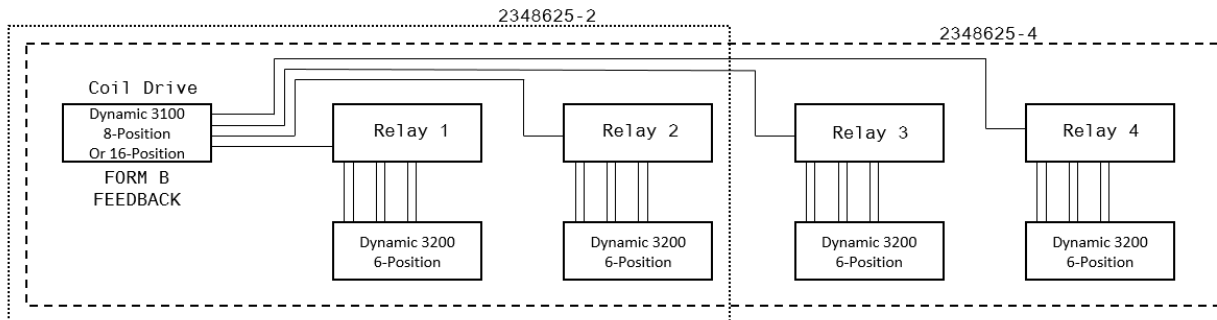


Figure 2. Dynamic Series Relay Module Functional Block Diagram

2.1 Dynamic 3100 8-position or 16-position (Coil Drive)

The DSRM requires a nominal 24V DC coil voltage to operate. This coil voltage must be supplied via the provided 8-position or 16-position Dynamic 3100 Series header. This header also includes contacts to interface with the relay Normally Closed contacts. Reference the product drawing for pin out.

2.2 Relay

The DSRM includes TE Connectivity SR Series Force Guided Relays, with 3 current carrying normally open contacts and one normally closed contact for control system feedback. Reference the product drawing for relay part number and pin out. Operational characteristics for the relay are included in the relay datasheet.

2.3 Dynamic 3200 6-position (Relay Contact Headers)

The DSRM includes one Dynamic 3200 Series 6-position header for each relay on the module. This header provides a pair of connections for each relay contact in the associated SR4 relay. Reference the product drawing for header part number and pin out.

3 Electrical Design Guidance

3.1 Electrical Isolation and Operating Voltage

The DSRM printed circuit board provides electrical isolation between relay contact circuits, and between the relay contacts and the relay coil, which exceeds the voltage ratings of the SR4 Series Force Guided Relay. Therefore operating voltage is determined by the specification of the SR4 relay. Reference the product data sheet for the SR4 Series to determine the safe operating voltage for the system.

3.2 Switched Current

The DSRM supports currents up to the specified contact current for the SR4 series relay on individual contacts. When multiple contacts are loaded, the average current per contact should be within the operating zone defined by Figure 3 below.

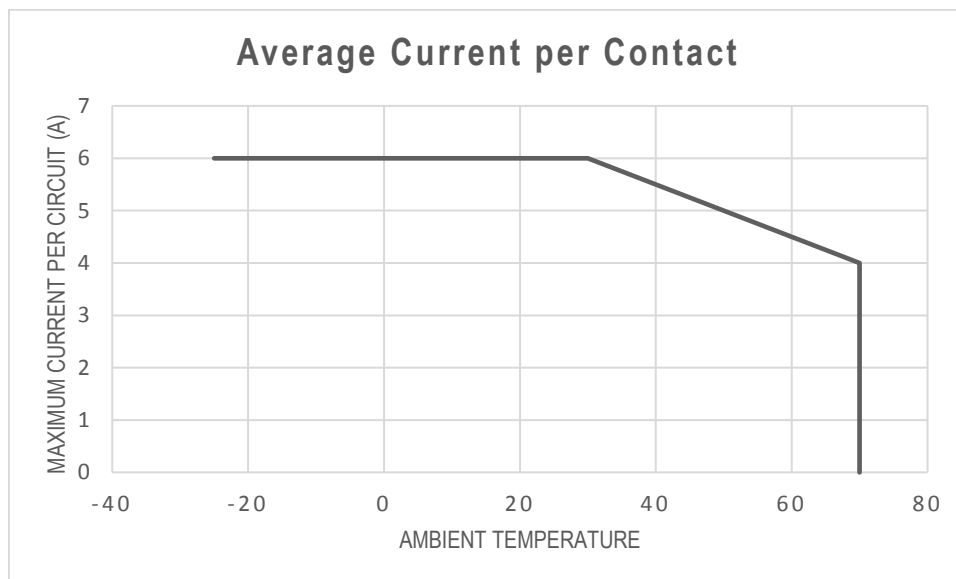


Figure 3, Safe Operating Zone, Average Current Per Contact

4 Mechanical Design Guidance

4.1 Environmental Conditions

The DSRM does not offer any environmental sealing or protection against contaminants or corrosive agents. The modules are intended to operate indoors or inside an enclosure, in a typical industrial environment.

Operating conditions are from -25 to 70°C up to 99% RH (non-condensing).

4.2 Cables and Connectors

- **Dynamic 3100 Series (Contact Interface)**

Cables and harnesses for the Contact Interface must mate with TE Dynamic 3100 Series headers. Tooling information is available on te.com.

- **Dynamic 3200 Series (Coil Interface)**

Cables and harnesses for the Coil Interface must mate with TE Dynamic 3200 Series headers. Tooling information is available on te.com.

4.3 Workmanship

The DSRM must not be damaged in any way. Inspect the carrier and end plate assemblies for any damage or misalignment from handling or shipping. Any damage to the DIN Rail mounting features may result in the module becoming dislodged during use.

4.4 Mating and Un-Mating Relay Module to DIN Rail

Align the DSRM in the desired orientation relative to the DIN Rail. Engage the DIN Rail mounting features on both end caps with the lip of the rail, starting with the mounting features nearest the XSCOIL header. With these mating features engaged, rotate the assembly toward the XSCR headers with the DIN Rail as the axis of rotation until the remaining mounting features engage. A positive click should be observed from the mounting features on both end caps to ensure secure mounting.

To unmount the DSRM, grasp the module and pull away from the XSCOIL header applying force in the plane of the DIN Rail surface. As the force is applied, rotate the XSCR header side of the module up and away from the DIN Rail.

4.5 Replacement and Repair

The PCBA, components, and carrier assembly are not serviceable. Hand soldering modifications or repair operations are not recommended. If damaged, replace the module with a new one.



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