2D78559G01

01 / Identify the installed arrangement

Eaton 2D78559G01 is the Universal RTD Module (URTD), an accessory for compatible motor-protection relays. It acquires up to eleven resistance-temperature detectors in four configurable groups.

Motor-protection context

The URTD gathers resistive temperature signals and passes them to a compatible motor-protection device.

Application scope

Use the four documented RTD groups for winding, motor-bearing, load-bearing and auxiliary temperature supervision.

Pre-work record

Isolate 120 VAC

Disconnect and verify the module power before changing terminals or DIP positions.

Record all DIP settings

Capture the eight switches and identify the RTD material for each of the four groups before exchange.

Use three sensor conductors

Wire each RTD with the specified stranded twisted three-conductor cable; a two-wire run causes incorrect relay operation.

Electrical and interface reference

RTD input capacity	11
Motor winding inputs	6
Motor bearing inputs	2
Load bearing inputs	2
Auxiliary inputs	1

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02 / Fit, reconnect and commission

Terminate shields correctly

Connect the sensor cable shield at the module end and insulate it at the RTD end; follow the separate relay-link shield instructions.

Separate voltage classes

Keep RTD/control wiring 45-60 cm from 440 VAC-and-higher conductors and avoid a common raceway.

Ground one earth point

Bond terminal 16 or 32, not both, and compare all relay temperature indications after the change.

System behavior

Eaton identifies style 2D78559G01 as the URTD Universal RTD Module in the MP-4000 accessory table. The dedicated IL 17367B instructions define eleven possible inputs: six motor windings, two motor bearings, two load bearings and one auxiliary. Each of the four groups uses one selected RTD type, so different materials within a group cannot be mixed.

The module accepts 10 Ω copper, 100 Ω platinum, 100 Ω nickel and 120 Ω nickel sensors. Eight two-position DIP switches select the group types. Its input supply is 120 VAC ±15% at 50/60 Hz and 6 VA. These are module requirements, distinct from the attached relay supply and sensor circuit.

A shielded three-conductor link can connect the URTD to supported MP-3000, IQ-1000 II, IQ-1000 or IQ-2000 equipment; the first two also support the documented fiber link. Three wires are required between each RTD and the module. Ground only the specified shield end and the single designated module earth terminal according to the original wiring figures.

Applicability

Style number 2D78559G01 is confirmed by Eaton accessory documentation. Electrical and wiring values are from IL 17367B for the Universal RTD Module; relay- and link-specific restrictions must be checked against the selected host.

How does 2D78559G01 distinguish winding RTDs from bearing RTDs?

The module assigns six winding, two motor-bearing, two load-bearing and one auxiliary input to four groups. Match each sensor to the correct terminal and program its group material with the corresponding two DIP switches.

Why can one channel on 2D78559G01 read incorrectly after an RTD material change?

A 100 Ω platinum curve is not interchangeable with 100 Ω nickel or 120 Ω nickel. Check the installed sensor material and both DIP positions for that entire group; all RTDs in one group must use the same type.

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03 / Troubleshoot and hand over

Is a two-wire RTD run acceptable on 2D78559G01?

The instructions require three conductors between each RTD and the module. If the sensor itself has only two leads, join two cable conductors at the sensor as shown in the manufacturer diagram; do not substitute a two-conductor run.

Where should the RTD cable shield for 2D78559G01 be bonded?

Bond the shield and drain at the specified module terminal and insulate the far end at the RTD. The relay communication-cable shield has separate host-specific instructions, so do not copy the sensor-cable rule blindly.

When can 2D78559G01 use a fiber link to the protective relay?

The original instructions document fiber communication with MP-3000 or IQ-1000 II, up to 400 ft (122 m). Confirm the fitted optical hardware and cable path; other listed relay families use the documented shielded electrical link.

How are unused RTD positions handled on 2D78559G01?

The manufacturer permits unused inputs to remain open or be jumpered without preventing operation. Record which positions are inactive so a later maintenance engineer does not mistake them for failed sensors.

What should be checked if 2D78559G01 communicates but values are noisy?

Inspect the three-wire RTD terminations, single-ended shields, earth bond and separation from high-voltage conductors. Then compare the relay indication with a known resistance or temperature reference for that RTD type.

What acceptance test should follow replacement of 2D78559G01?

Confirm 120 VAC supply and the DIP map, check continuity of each sensor circuit, compare all active relay temperatures with the pre-work baseline, and prove the intended alarm or trip logic under a controlled site procedure.

Technical basis: Eaton/Cutler-Hammer Instructions for Universal RTD Module, IL 17367B (December 1998); Eaton MP-4000 manual IB02602002E, accessory Table 1.3

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