Check the connection first

RPM072 / RDM172 candidate equipment | Identify -> inspect -> test -> interpret

Purpose and applicability

Use this guide to narrow a display problem without assuming that the meter or display has failed. Supply records identify RPM072-5-50HZ-ACDC-ETH and RDM172-C03. The installed labels, connector arrangement and exact C03 cable assembly remain to be matched.

> Select the matching diagram before wiring. The manuals show a 15-pin display connection and a separate seven-terminal RDM172 arrangement. Their numbers are not interchangeable.

1 Identify

Photograph both nameplates, both cable ends, the port labels and any separate display supply. Record cable marking and total length.

2 Inspect safely

A qualified electrician must isolate the relevant power sources before connector inspection, disconnection or cable tests. Follow the site isolation procedure. Do not open a CT secondary while its primary is energised.

3 Match the wiring

Use page 2 only for the matching 15-pin arrangement; page 3 only for the matching seven-terminal arrangement. Neither is a confirmed drawing of this installation.

4 Verify supply and data path

Keep meter control power separate from display power. Check the actual nameplate rating, cable conductors and existing communications settings; see page 4.

5 Record the result

Use page 5 to record the symptom and checks. A remaining fault requires controlled testing; it is not proof that a replacement meter is needed.

Safety source: PM172 Installation and Operation Manual, BG0399 Rev. A9, page 2. The diagnostic sequence is guidance, not a confirmed cause. No factory reset, firmware update, live connector probing or blind component swapping forms part of this guide. It is a review draft for Dean, not a site-specific commissioning instruction.

A / Dedicated 15-pin display

Conditional reference only | PM172 manual BG0399 Rev. A9, printed pages 15-16

Match the connector and cable first. Pin functions: 1 +12 V; 5 RS-485+; 7 RS-485-; 8 GND / supply return; 15 chassis ground.

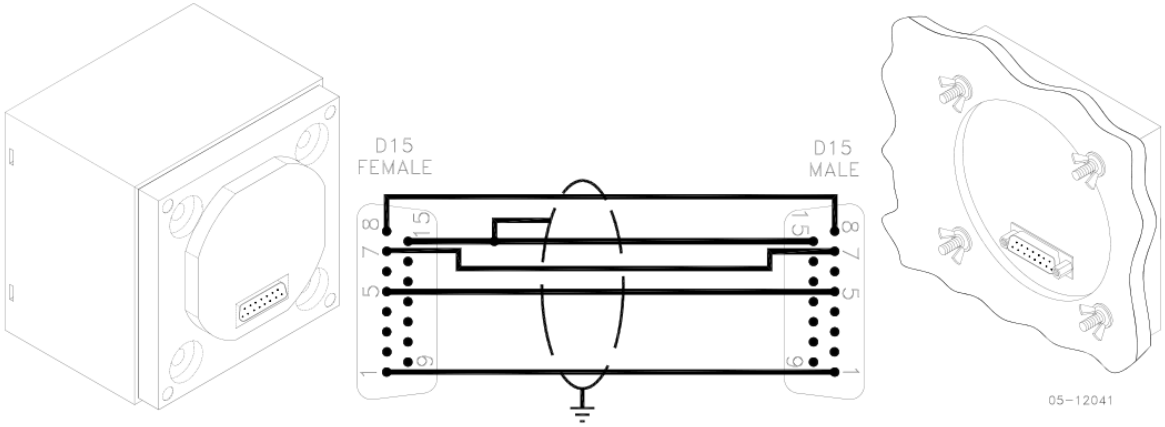


Figure 2-13 Self-powered remote display connection

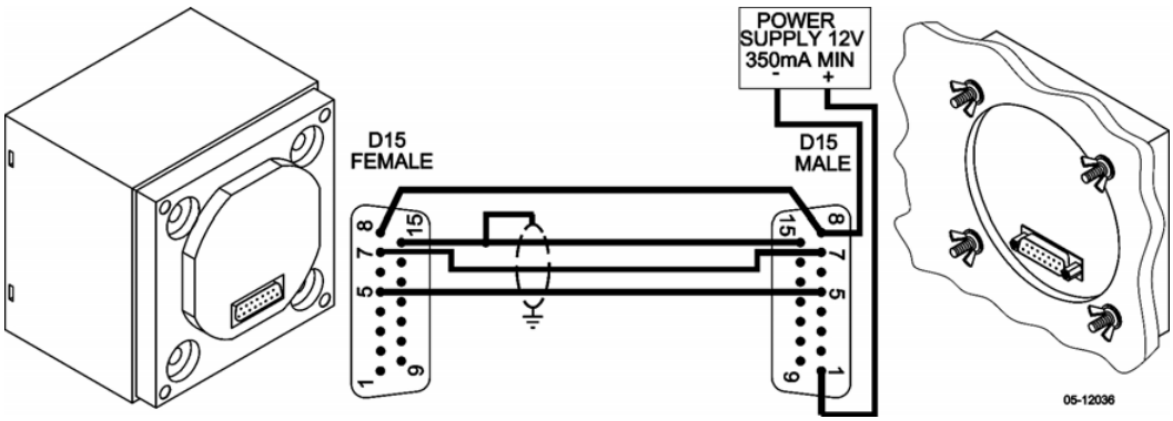


Figure 2-14 Remote display powered from a 12V DC power source

Figure 2-13: for a cable up to 3 m, the meter can power the display through the cable. Figure 2-14: above 3 m, use separate 12 V DC, minimum 350 mA, at display pin 1 (+) and pin 8 (-). Meter pin 1 is not connected in that external-supply diagram.

Follow the numbered male/female connectors in the original figure. Do not infer a solder-side or mating-face orientation. Shield/chassis connections must follow the complete figure, not this text alone.

VERIFIED: manufacturer pin table and figures, checked 6 November 2026. Images above are manufacturer reference drawings, not photographs or drawings of the customer installation.

Open full PM172 manual: pages 15-16

B / Seven-terminal RDM172

Conditional reference only | RDM172 Quick Guide BG0324 Rev. A2, printed page 5

Use only for the seven-terminal display shown. It has a separate 12 V DC supply, +/-15%, with at least 350 mA capacity. These are terminal numbers, not 15-pin connector numbers.

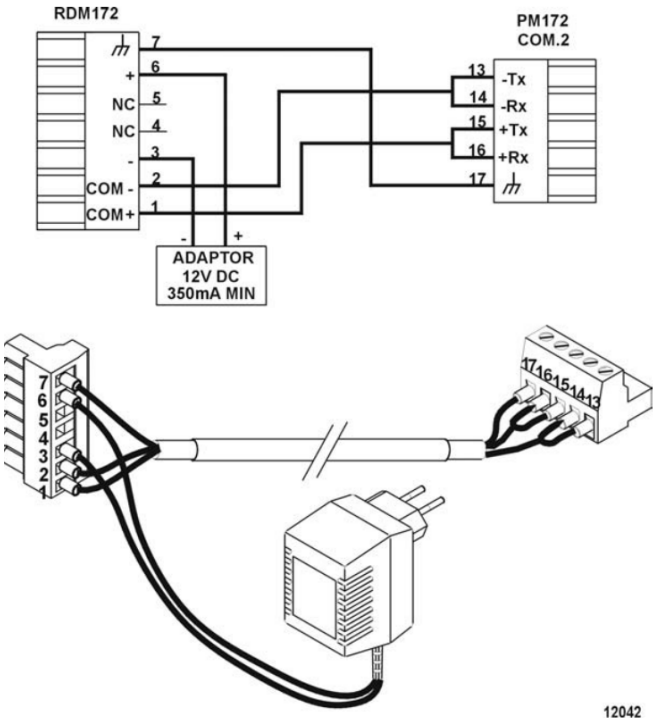


Figure 2-1 RDM172 Electrical Connections

IMPORTANT: It is recommended to solder the wire ends before attaching them to the connectors.

5

Display 1 COM+ to linked meter COM2 15/16; display 2 COM- to linked COM2 13/14; display 7 earth to COM2 17. External supply positive to display 6, negative to display 3. Display 4 and 5 are NC.

Keep power, communications and earth conductors distinct. The diagram shows the required links on the meter COM2 terminals; do not copy the DB15 map onto this terminal block.

VERIFIED: manufacturer introductory supply precautions and Figure 2-1, checked 6 November 2026. This is a manufacturer reference drawing; applicability to the installed C03 assembly is not yet confirmed.

Open RDM172 Quick Guide: printed page 5 / PDF page 6

Check power, cable and settings

For a qualified electrician | Record existing conditions before making changes

Check	What to verify / record
Meter control power	Compare the actual supply with the meter nameplate. PM172 manual page 18 identifies terminal 12 as L/+ and terminal 10 as N/-. This is not the display supply.
Display supply	Use the matching arrangement on page 2 or 3. Record the source, rating, polarity and the electrician's supply-check result. Do not connect an external supply to assumed pins.
Cable condition	With the cable isolated and disconnected at both ends, check required conductor continuity and unintended shorts against the selected manufacturer diagram. Inspect connector seating, damaged pins and terminations.
Communications	For the documented regular COM-port RS-485 arrangement: Modbus RTU, 19200 baud, eight data bits, no parity. Match the RDM target address to the intended meter. Record settings before changing them; check other users of a shared link.
Independent meter access	If an existing PAS/Ethernet connection is available, read existing meter data without configuration changes. Successful Ethernet access does not prove the display port is healthy.

Read the indicators in context

Record each indicator label. The PM172 manual notes that COM1 can flash constantly with the Ethernet option regardless of traffic. With a remote three-wire RS-485 display, COM1 indicates display-port activity and COM2 is not operational. An unidentified flashing LED does not prove communications are working.

> Do not merge the supply circuits. The meter control-power rating is set by its nameplate. The documented display supplies are low-voltage DC. No universal control-supply voltage is prescribed here.

VERIFIED numerical wiring/settings: PM172 BG0399 Rev. A9, pages 16, 18, 32-33; RDM172 BG0324 Rev. A2, pages 7-9. Checked 6 November 2026. Cable-test sequence and independent-access check are diagnostic guidance, not a confirmed cause.

Interpret and report the result

Complete one record for each meter / display pair | Dean reviews the next test

Observation	Interpretation and next check
Blank display	Supply path, cable power conductors or display hardware are possible causes. Verify power first.
diSP Con.E / Con.Err	Communication failure, not a component diagnosis. Check meter availability, cable data path and applicable settings.
Changing / missing segments	Confirm whether the same effect is visible directly. A camera may distort LED segments; do not diagnose from video alone.
Checks pass; symptom remains	Arrange a controlled test using confirmed compatible equipment to distinguish the display, cable and meter display port.

Results to return

Site / asset tag: _____

Meter model / serial: _____

Display model / serial: _____

Connector arrangement / cable marking / length: _____

Supply source / rating / check result: _____

Continuity / shorts / connector condition: _____

Exact symptom / settings / PAS result: _____

Electrician / date / photos attached: _____

Manual references

PM172 IOM BG0399 Rev. A9: safety p. 2; wiring pp. 15-18; indications pp. 32-33

RDM172 Quick Guide BG0324 Rev. A2: wiring p. 5; settings/errors pp. 7-9

Fault interpretations above are hypotheses. Source facts were checked 6 November 2026. Exact installed identity and C03 assembly remain open. No customer serial numbers or site imagery are embedded in this reusable guide.