

/// Relay test system for very fast verification of relay conditions

PRT-MS1

Portable Relay Tester



Features

- High inspection rates possible
- Super-fast, 3 seconds test time
- Easy PASS / FAIL test
- Light (2.8 kg), portable, rugged field use
- Rechargeable battery operated, lasts 8 hours
- Calibrate delay-on and delay-off times
- Language: English and Chinese
- For instantaneous and timer relays
- DC coil voltages
- Electrical contact cleaning function

Description

Portable relay test system designed to facilitate rapid verification of relay condition. The system is battery powered (lasts 8 hours standard use), and allows the operator to perform tests on both instantaneous and timer relays. Efficiently determine correct relay functionality including minimum operating voltage, contact quality and delay times. Defects such as jammed contacts are identified.

Easy and quick operation: insert relay, select coil voltage, contact current and delay mode (timer relays only). After pressing start button within 3 seconds relay tester shows pass/fail result by a green/red LED.

Including contact wetting possibility to electrically clean relay contacts.

Application

The PRT-MS1 is the ideal choice to offer a low-cost relay testing capability to service engineers for onboard train applications.

- Fast & easy field testing
- Fault finding
- Testing & calibration of timer relays
- Incoming goods inspection

Suitable relays

D-U and D8-U relays



CU-U relays



A 400 & B 400 relays



TDB4, TBAU, TDE4-U, TDE4N-U, TBAA & TEAU relays



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For more detailed technical specifications, drawings and ordering information, go to the product page on www.morssmitt.com

 **Over 10 million Mors Smitt relays in use in rail transport applications worldwide!**

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Technical specifications

General

Relay types	D-U, TDB4-U, TDE4-U, TDE4N-U, A400, B400, TBAA, TBAU*, TEAU*: 4 C/O contact configuration CU-U: 2 C/O contact configuration D8-U : 8 C/O contact configuration Note: DGG-U, D-U-W and D relays with option Y (DMDB) cannot be tested. * Only with delay-on setting
Nominal voltage	24, 36, 72, 96, 110 VDC
Controls	Power button Button to select nominal voltage Button to select delay mode Button to select contact current Button to select function Button to start test
User interface	OLED display showing input, results and battery status indicator
LEDs	Status, test result Charging indicator
Power	Battery powered Battery lasts 8 hours standard use when charged. Charging time when empty: approximately 2 hours
Connections	Power inlet to charge battery
Charging cable	Included, grounded power plug type Schuko, UK, USA, AUS or CN
Charging voltage	110 - 240 VAC
Dimensions (l x w x h)	450 x 270 x 140 mm (suitcase closed)
Weight	Approx. 2.8 kg
Housing	Watertight, dustproof, chemical resistant and corrosion proof suitcase Easy-open, double-step latches O-ring seal With automatic pressure relief valve Material: copolymer polypropylene
Language	English and Chinese: selectable

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Tests

Functional test	
Coil supply	70% of nominal value
Coil power limit	
- CU socket	1.0 W
- D socket	2.7 W
- A/B socket	3.0 W
- D8 socket	4.0 W

Contact test	
Contact current	
- Low	10 mA
- Medium	100 mA
- High	1 A
Maximum voltage drop	2.4 V

Timing test	
Coil supply	100 % of nominal value
Contact current	10 mA
Maximum on-delay	10 minutes
Maximum off-delay	10 minutes

Contact cleaning	
Coil supply	70 % of nominal value
Contact current	1 A
Contact voltage	24 V
Switching cycles	10

Remark: relay tester results do not imply or conclude warranty defects, quality issues, or manufacturing flaws. If required to know the root cause of the failure, Mors Smitt relays which do not pass this test should be investigated further. Mors Smitt can assist with a detailed evaluation.

Accuracy

Voltage drop measurement	$\pm 2.5 \%$
Coil supply voltage	$\pm 5 \%$
Coil supply power limit	$\pm 10 \%$
Contact current	$\pm 5 \% \pm 2 \text{ mA}$
Timing measurement	$\pm 5 \% \pm 1 \text{ digit}$

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Example screens

Start screen after power on



Instantaneous D-relay before testing



Instantaneous CU-relay passed the test



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Example screens

Testing TDB4 timer relay in progress



TDB4 timer relay passed the test



Instantaneous B400 relay failed the test: N/C contacts are not OK



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Example screens

Instantaneous D-relay before contact cleaning



Contact cleaning in progress



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