



T3R-E

Two axes 3-wheel Test Tool

Applications

The Three-Wheel Tester is primarily designed for testing the resistance of smartcard IC chips to pressure. The T3R-E version is able to test any ID-1 cards including contactless cards and offers as an option a unique feature for querying the transponder of the card under test at each cycle, helping the analysis of test failures.

The T3R-E complies with ISO/IEC 24789-2 standard and the latest MasterCard CQM requirements (#8210# & #8270# test methods) for:

- Chip and antenna inlay qualification.
- Quality control / production control of smart card.

Key benefits

- Easy-to-use equipment with a 3,53 touch-screen pad.
- Extended test zone with a micro-metric bearing.
- Pre-adjusted zero position (center of the chip card module) and initial position to start cycle.
- M1 calibrated weights.

On-the-fly contactless failure detection (optional)



The contactless card failure detector checks on-the-fly the transponder of the card under test and will stop the ongoing test after a user defined number of successive failures. The supported proximity card protocols are:

- ISO14443 A & B.



Access Evolution Productivity

Technical characteristics

User Interface

3,5" touch-screen interface with remote Ethernet access capability

Card axis

Longitudinal and transversal

Wheels course

X position: up to 2 mm from edges
Y lengthwise stroke: 40 mm

Applicable Force

8, 10 and 12N (optional : 20N and 25N)

Dimensions

W x D x H: 600 x 320 x 300 mm

Weight

16 Kg

Power supply

100-240VAC 50/60Hz

In compliance with E.C. directives

Associated products

Complementary tests can be performed using MULANN test tools such as:

- µCARD software
- PVT-A, NTMAGII and NTMAGIII
- TFD-A or TFD-P30 dynamic bending and torsion
- WTT-A, CBT-A or BWT-A for bending stiffness and wrapping tests

T3R 3-WHEEL TESTER	
for ID-1 contactless, smart card and magnetic cards	
Reference	Evolution
T3R-E	
<p>The T3R range of products has been developed to address the ID-1 mechanical card testing as per the Mastercard™ recommendation. It complies with the CQM requirements.</p> <p>Moreover, the T3R testers can also be used to address a wide range of applications.</p> <p style="text-align: center;">- not available, as an option, ● included</p>	
Characteristics	
Number of cards under test	1
Card rotation (<i>Manual rotation by the operator</i>)	2-axes
Test area as per CQM recommendation (<i>see note 1</i>)	●
Standard test pressures (N) (<i>see note 2 and options for additional pressures</i>)	8, 10 and 12
Pressure adjustment	Manual
Pressure wheel width (mm)	4
Pressure load/unload by lever	●
Stroke on wear and tear Y-axis	40 mm
Y-axis start position as per CQM (mm)]0,1]
X-axis positioning from card left border (<i>see note 3</i>)	0 to 54 mm ± 0.2 mm
LED card holder lighting (<i>adjustable from 0 to 100%</i>)	●
Test frequency (<i>speed</i>)	0.5 Hz or 1 Hz
Maximum number of cycles per test	9999
End of test alert	Screen/LED
Color tactile human machine interface (HMI)	3.5" TFT QVGA 16-bit colors
HMI languages (<i>EN English, FR French</i>)	EN / FR
Interface help page language	EN only
Communication port : Ethernet (<i>see note 4</i>)	●
Access to logs and reports (<i>see note 5</i>) <i>*Ethernet card required</i>	
Internal data mass-storage capacity (<i>* additional as option</i>)	4GB*
At startup and after power failure	Reset and restore last configuration
Alarms	door / overheat
Power - protection by fuse	100-240VAC 50/60Hz - phase & neutral
Maximum consumption (W)	80
Operating Temperature (<i>see note 6</i>)	+5°C to +40°C
Storage Temperature	-10°C to 60°C
Relative Humidity (HR)	10% to 95% (non condensing)
Maintenance & calibration (<i>recommended average time between inspections</i>)	2 years or 800 000 cycles with reminder pop-up.
Conformity certificate	CE certification

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Accessories	
Operating manual	EN only
1M50 power cord	●
1M50 Ethernet RJ45 CAT5E cable	●
Packaging (<i>recommended for transportation</i>)	
Options	
2 nd set of weights for additional ranges of pressure (<i>see note 7</i>)	Yes
Electronic weight detector (<i>see note 8</i>)	Yes
Contactless ISO14443A & B reader (<i>see note 9</i>)	Yes
Extra storage memory (<i>not removable</i>)	Yes
External Wi-Fi module (<i>see note 10</i>) (* <i>requires the Ethernet card</i>)	Yes*
Position helper (mark at a specific locations) (<i>see note 11</i>)	-
Rod for 43 mm stroke to cover the complete card length <i>Option to be mounted during manufacturing</i>	Yes
Full maintenance contract (<i>see note 12</i>)	Yes

Note 1: For accessing the expanded tested area, the card will have to be manually returned and flipped.

Note 2: The standard set of weights includes the 5N-Tare plus 3N, 4N and 5N weights. This enable tests with accurate pressures of 8N (Tare 5+3), 10N (Tare 5+5) and 12N (Tare 5+3+4). The 5N-Tare weight is always present.

Note 3: The value takes into account the width of the wheels (4 mm).

Note 4: Network interface is Ethernet 10/100 Mb/s using fixed IP addresses only. DHCP is not supported.

Note 5: Requires a PC connected to the T3R using the Ethernet port and 3rd party software utilities.

Note 6: The internal temperature shall not exceed 50°C. Under heavy duty operations, when the ventilation is not able to keep the temperature below the threshold, the machine displays an alarm and goes in standby mode for security reasons.

Note 7: The second set of weights includes 2 x 10N weights for enabling additional accurate tests at 20N and 25N through combinations with standard weights. The (T-5N) Tare weight shall always be present and place at the bottom for ensuring an accurate pressure value.

Note 8: The weight detector displays weight configuration on HMI for mis-configuration and pressure selection logging in the ATR.

Note 9: The contactless reader queries the transponder card under test (*Request All command only*) at each cycle and stops the test when the card fails responding.

Note 10: Wi-Fi IEEE802.11b/g 54Mbps module, 20Mbps effective data rate over Ethernet port powered by an external 5V DC pack.

Note 11: The position helper is a label where markers have been positioned on a sticker label for helping the X positioning. For example, it locates the center of the smart card contact area when the card is return face down and the contact

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