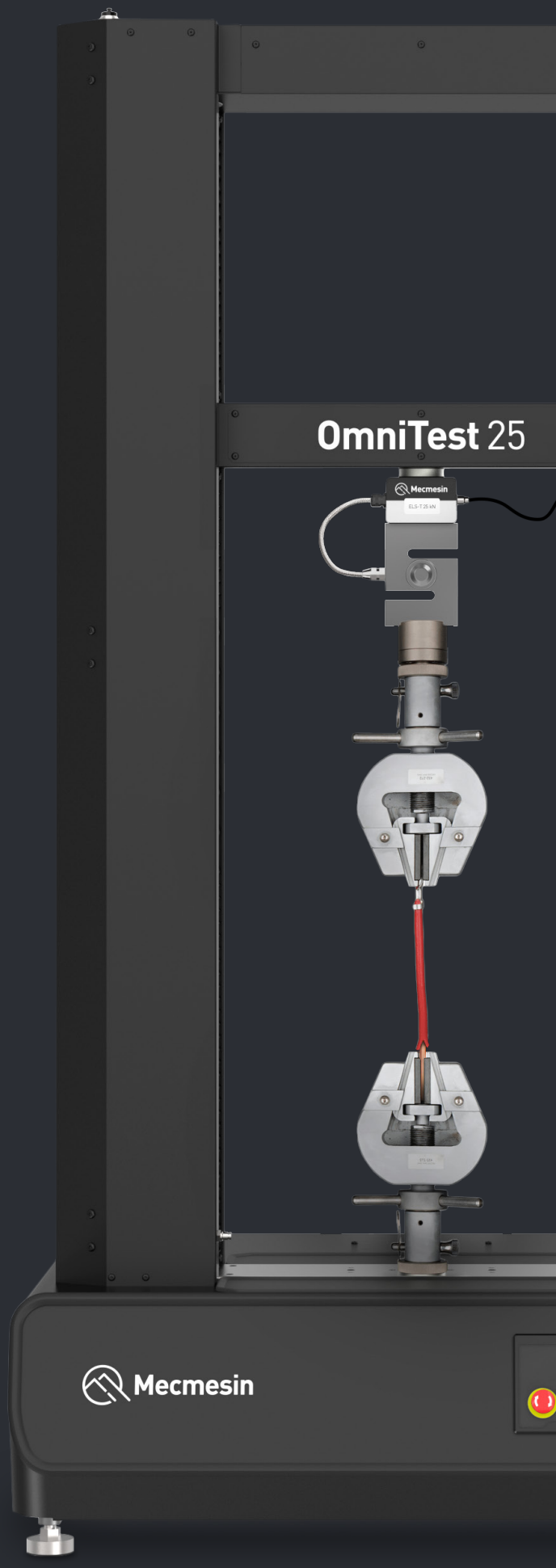
Mecmesin

Wire terminal strength testers Datasheet



PHYSICAL PROPERTIES TESTERS GROUP

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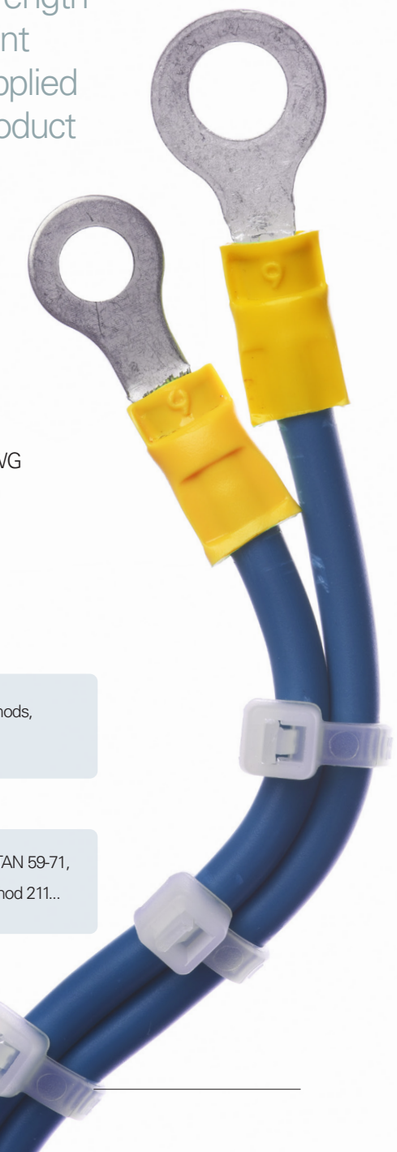
Wire Terminal Strength Testers

Crimp joint quality relies on both mechanical strength and electrical conductivity. Pull testing of the joint verifies that the proper crimp force has been applied during the crimping process. It ensures final product integrity and acts as a calibrator to monitor the effectiveness of crimping tools.



Test standards

Adherence to various international and industry standards is crucial. To ensure repeatabilty of results, standards commonly emphasise that there is no jerking or sudden application of force. This can best be achieved by using a motorised pull tester.

While standards set minimum pull force values based on wire diameter and AWG conductor size, manufacturers prioritise knowing joints can withstand or sustain higher loads.

Key electrical, automotive, aerospace, and military standards include:

Aerospace

ISO 1966, BS 5G 178, NASA-STD-8739.4...

Automotive

USCAR-21, VW methods, Ford methods...

Electrical

IPC/WHMA-A-620, UL 486, ANSI/EIA 364-38B, ASTM B913...

Military

SAE AS7928, DEF STAN 59-71, MIL-STD 202-H: Method 211...

Pull testers

Mecmesin's range of Wire Terminal Strength Testers (WTST) provide the ideal solution for testing a wide variety of crimp terminals and cables used in applications such as automotive, marine, agricultural and construction equipment.

International test standards stipulate that terminals must be pulled at a uniform consistent pull speed, which requires the use of a motorised test system. WTST systems can be easily configured to perform both non-destructive tests ('pull-and-return' or 'pull-and-hold') and destructive tests ('pull-and-break' or 'pull-hold-and-break')

There are 2 versions of WTST available from Mecmesin, both of which provide high accuracy with outstanding repeatability and reliability.

Powered by VectorPro

Vertical wire terminal strength testers

Part	Model	Capacity (kN / lbf)	Part	Model	Capacity (kN / lbf)
WTST-V 10	10 kN (2200 lbf)	Up to 14 mm	WTST-V 2.5	2.5 kN (550 lbf)	Up to 6 mm
WTST-V 25	25 kN (5500 lbf)	Up to 20 mm	WTST-V 5	5 kN (1,100 lbf)	Up to 10 mm
WTST-V 50	50 kN (11,000 lbf)	Ideal for larger cables	WTST-V 7.5	7.5 kN (1,650 lbf)	Up to 12 mm

Horizontal wire terminal strength testers

This compact and rugged motorised tester fits neatly on a benchtop. It features an instrument keypad from which 3 test modes can be selected to perform the appropriate pull-test programme and launch the test. The WTST Horizontal automatically detects the break in the terminal joint and clearly displays the maximum pull-off load at the end of the test.

Results can be stored in the internal memory of the WTST-H and either viewed on the display or exported to a dedicated data-collection software.

Part	Model	Capacity (kN / lbf)
WTST-H 0.5	0.5 kN (110 lbf)	Up to 4 mm
WTST-H 1	1 kN (220 lbf)	Up to 5 mm

WTST-V 10/25/50

OmniTest twin-column test system

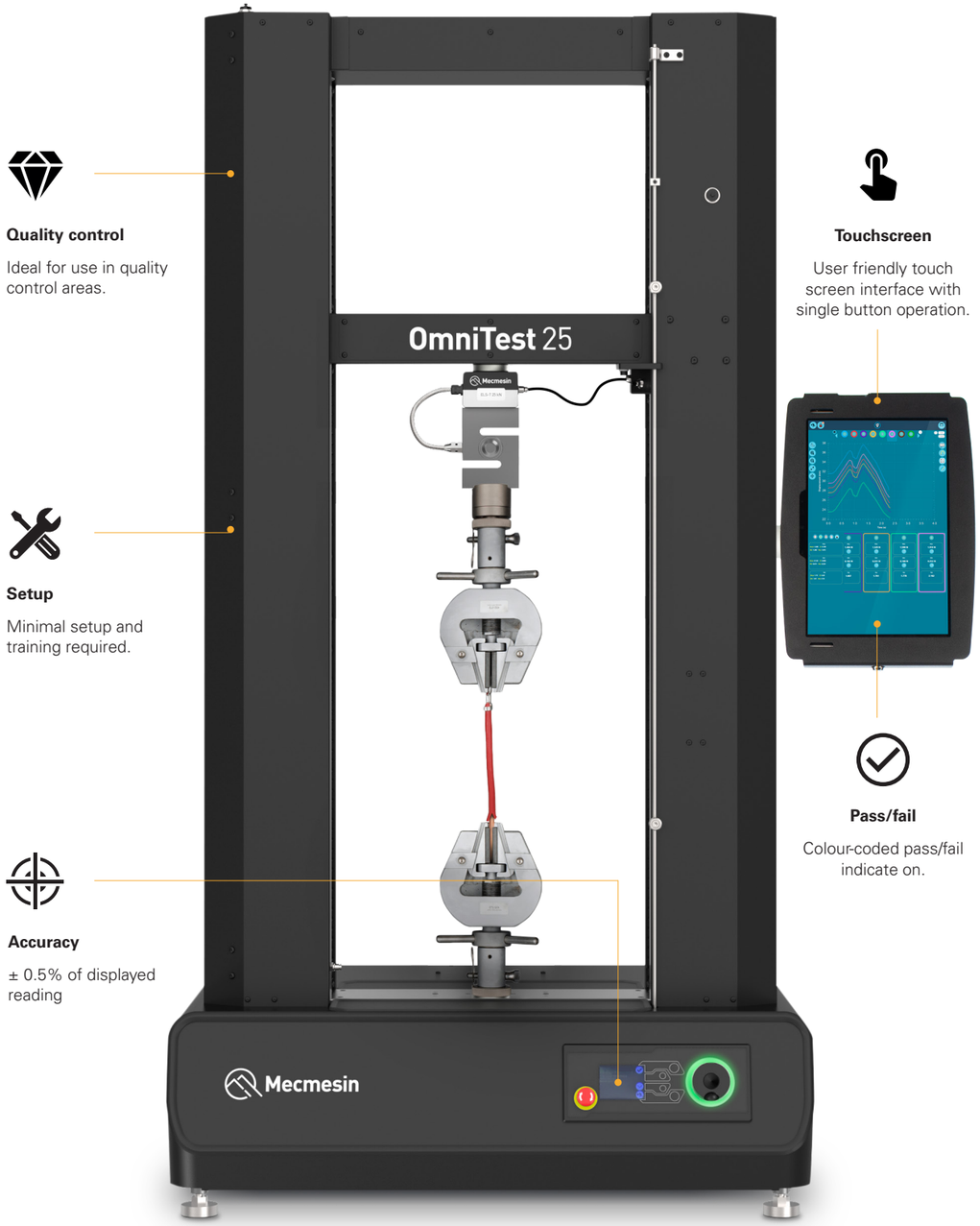
System configuration:

Stand	Description	Part Number
	OmniTest frame controlled by touchscreen console. • Simple to use- one-touch selection of favourite test • Saves time- 'Single shot' mode rapidly returns to start position when test completed • Selectable test speed between 0.01-1000 mm/min (0.0004- 39.4 in/min)** • Available as 10 kN, 25 kN or 50 kN capacity	830-110 (10 kN) 830-125 (25 kN) 830-150 (50 kN)

Loadcells	Description	Part Number
	ELS-S From 100 N to 25 kN capacity ELS-T From 100 N to 50 kN capacity	Select suitable model from 880 series

Grips	Description	Part Number
	Large cable cam grips. Self-tightens as load is applied, minimising slippage during test Suitable for wire up to 16 mm in diameter Rated to 5 kN	432-108
	20 kN wedge grip with round jaws for holding cable of 4-16 mm diameter 20 kN wedge grips with flat jaws for holding terminals up to 13 mm thick 50 kN wedge grips with round jaws for holding cable of 4-16 mm diameter. 50 kN wedge grips for holding terminals up to16 mm thick	MEC243-20 + MEC243-BV16 MEC243-20 + MEC243-BP MEC243-50 + MEC243-BV16 MEC243-50 + MEC243-BP16

** 50 kN model has speed range of 0.01 – 500 mm/min (0.0004 – 19.7 in/min)
Many other optional accessories are available, including custom-designed fittings.



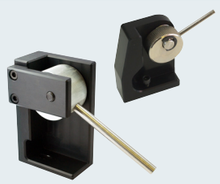
WTST-V 2.5/5/7.5

OmniTest single-column test system

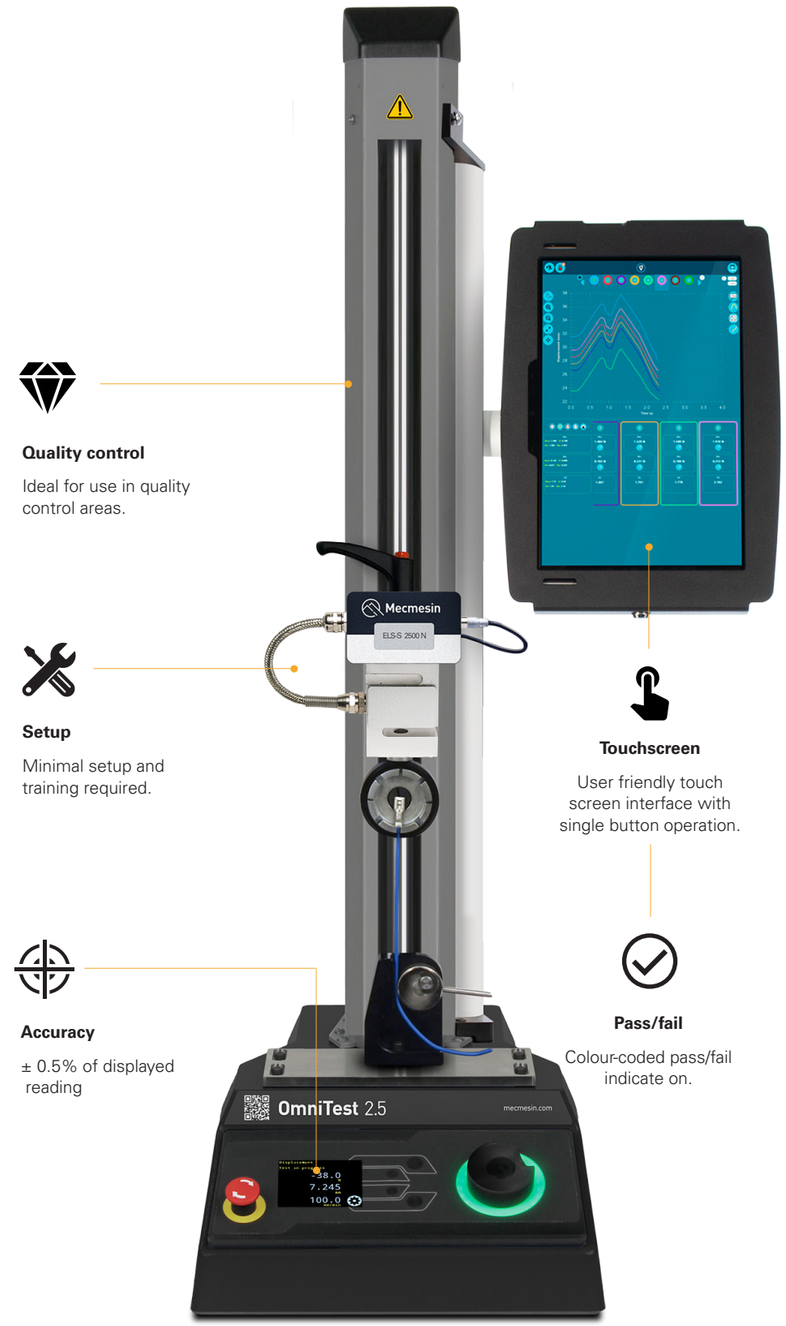
Instrument configuration:

Stand	Description	Part Number
	OmniTest frame controlled by touchscreen console. • Simple to use- one-touch selection of favourite test • Saves time- 'Single shot' mode rapidly returns to start position when test completed • Selectable test speed between 0.01-1200 mm/min (0.0004- 47.2 in/min) • Available as 2.5 kN, 5 kN or 7.5 kN capacity	830-002.5 (2.5 kN) 830-005 (5 kN) 830-007.5 (7.5 kN)

Loadcells	Description	Part Number
	ELS from 100 N to 500 N capacity ELS-S from 100 N to 5 kN capacity ELS-T 7.5 kN capacity	Select suitable model from 880 series

Grips	Description	Part Number
	Large cable cam grip. Self-tightens as load is applied, minimising slippage during test. Suitable for wire up to 16 mm in diameter. Rated to 5 kN	432-108
	Cable cam grips. Self-tightens as load is applied, minimising slippage during test. Suitable for wire up to 5 mm in diameter. Rated to 1 kN	432-390
	Wedge grip with flat jaws for holding terminals up to 7mm thick. Rated to 5 kN	432-398
	Rotating crimp receptacle 1 kN for holding terminals with cable diameter of 1.5 – 5 mm. Rated to 1 kN	432-379
	Adjustable test hook for holding terminals with cable diameter less than 2 mm. Rated to 50 N	432-380

Many other optional accessories are available, including custom-designed fittings.



Quality control

Ideal for use in quality control areas.

Setup

Minimal setup and training required.

Accuracy

± 0.5% of displayed reading

Touchscreen

User friendly touch screen interface with single button operation.

Pass/fail

Colour-coded pass/fail indicate on.

WTST-H 0.5/1

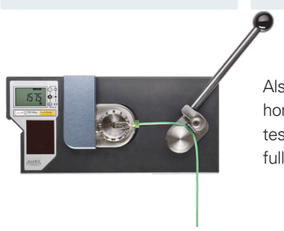
FMT-W40 horizontal tester

Instrument configuration:

Instrument	Description	Part Number
	FMT-W40 unit with integrated keypad & solar-powered display • Simple to use- menu selection of 3 test modes • Saves time – secure sample horizontally in clamps • Select from 7 pre-set test speeds • Available as 0.5 kN or 1 kN capacity	FMT-W40C5 (0.5 kN) FMT-W40K1 (1 kN)

Grips	Description	Part Number
	Supplied as standard with WTST-H 0.5 and WTST-H 1 Rotating crimp receptacle for holding terminals with cable diameter of 0.5 – 6 mm. Rated to 1kN Lever cam grip. Self-tightens as load is applied, minimising slippage during test. Suitable for wire up to 6 mm in diameter. Rated to 1 kN	

Grips	Description	Part Number
	Ring terminal fixture with 8 pins for holding ring terminal lugs of inner-diameter 2 – 12 mm. Rated to 1 kN Roller grip for tensile and peel testing of welded cables up to 7 mm diameter. Rated to 1 kN	FMT-965 FMT-956
	Data-collection software	FMT-816W



Also available in the WTST range of testers is a manually-operated version of the WTST-H horizontal testers. Although it does not facilitate testing at pre-set speeds as per the international test standards, it is sometimes employed as a basic tester where budgets are restricted and full compliance with standards is not essential.

Configure your wire terminal strength tester online:
visit wireterminalstrength.com

Protection guards

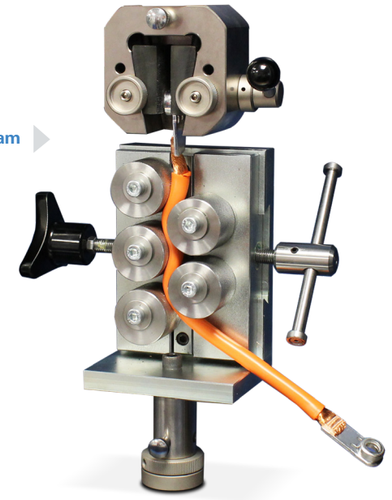
All OmniTest testers can be supplied with a standard safety guard. This includes a rigid metal frame with integrated polycarbonate panels to allow the operator to view the test area from outside.

Custom grips

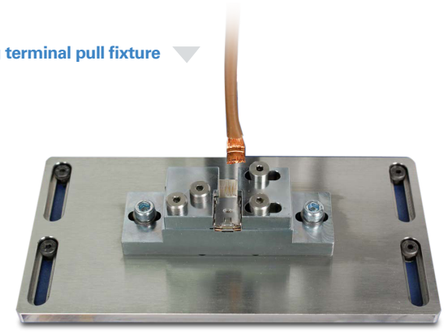
Grips can be custom-designed and manufactured to securely hold a variety of test specimens

OmniTest 25 Guard

Multi roller cable cam grip PDV 19036



Flag terminal pull fixture



World class calibration and support

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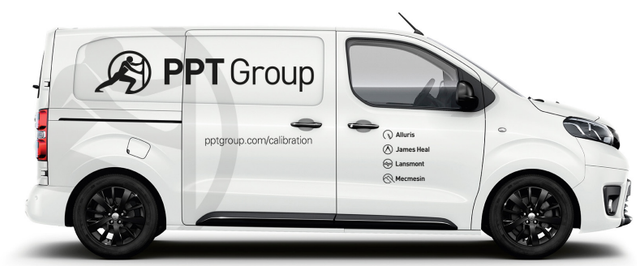

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Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE.

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