

M500

Programmable Standard Current Transformer



Programmable Standard Current Transformer M500 and primary current **Range Extender M500E1** represents a new generation of programmable reference transformers developed for automated current transformer calibration systems.

Key features of the **M500** include high current ratio accuracy, achieved through active compensation of the residual magnetic flux in the transformer core, and flexible current ratio selection via PC software or the front-panel rotary encoder.

Current ratio switching is performed by highly reliable electromechanical switches, ensuring excellent long-term reliability and repeatability

FEATURES AND BENEFITS

- Definitive reference current transformer for current transformer calibration in accordance with IEC 61869 and IEEE C57.13
- High accuracy (ratio error $\pm 0,005\%$ and phase displacement $\Delta\phi \pm 0,5$ min)
- Active residual magnetic flux compensation for exceptional ratio accuracy and long-term stability
- Wide primary current range from 0,5 A to 5000 A with a constant 5 A rated secondary current
- Flexible current ratio selection via PC software or the front-panel rotary encoder
- Highly reliable electromechanical switching minimizes manual cable reconnections
- Automatic overcurrent protection to prevent damage during overload conditions
- Compact size and low weight for easy transportation and laboratory integration
- Long-term stability and excellent repeatability
- Seamless integration with automated current transformer calibration systems

VERSIONS

M500 Transformers are available in three versions:

- **M500.1**
- **M500.2**
- **M500.3**

The **M500** Transformer set of any modification may include the **M500E1** Range Extender

APPLICATIONS

Programmable Standard Current Transformer **M500** is used by:

- Manufacturer of Current Transformers
- On-site testing of Current Transformers
- Calibration laboratories
- Metrology institutes

TECHNICAL SPECIFICATIONS

Specification	Version		
	M500.1	M500.2	M500.3
Current range	1...120 %	1...150 %	1...150 %
M500 Rated primary current	0,5; 1; 1,5; 2; 2,5; 3; 4; 5; 7,5; 10; 15; 20; 25; 30; 40; 50; 60; 75; 80; 100; 125; 150; 200; 250; 300; 400; 500; 600 A	0,5; 1; 1,25; 1,5; 2; 2,5; 3; 4; 5; 6; 7,5; 10; 12,5; 15; 20; 25; 30; 40; 50; 60; 75; 80; 100; 125; 135; 150; 175; 200; 250; 300; 350; 400; 500; 600 A	0,5; 0,6; 0,7; 0,75; 0,8; 0,9; 1; 1,25; 1,5; 2; 2,5; 3; 3,5; 4; 4,5; 5; 5,5; 6; 6,5; 7; 7,5; 8; 8,5; 9; 9,5; 10; 12,5; 15; 20; 25; 30; 35; 40; 45; 50; 55; 60; 65; 70; 75; 80; 85; 90; 95; 100; 105; 110; 115; 120; 125; 130; 135; 140; 145; 150; 155; 160; 165; 170; 175; 180; 185; 190; 195; 200; 225; 250; 275; 300; 325; 350; 375; 400; 425; 450; 475; 500; 525; 550; 575; 600 A
M500 + M500E1 Rated primary current	750; 800; 1000; 1200; 1250; 1500; 1600; 2000; 2400; 2500; 3000; 4000; 5000 A	750; 800; 1000; 1200; 1250; 1500; 1600; 1800; 2000; 2400; 2500; 3000; 3200; 3500; 4000; 5000* A	650; 700; 750; 800; 850; 900; 950; 1000; 1050; 1100; 1150; 1200; 1250; 1300; 1350; 1400; 1450; 1500; 1550; 1600; 1650; 1700; 1750; 1800; 1850; 1900; 1950; 2000; 2100; 2200; 2250; 2300; 2400; 2500; 2600; 2700; 2750; 2800; 2900; 3000; 3100; 3200; 3300; 3400; 3500; 3600; 3700; 3800; 3900; 4000; 4100*; 4200*; 4300*; 4400*; 4500*; 4600*; 4700*; 4800*; 4900*; 5000* A
Rated secondary current	5 A		
Burden power	≤5 VA		
Ratio error	±0,005 %		
Phase displacement $\Delta\varphi$	±0,5 min		

* Values are possible for 1 to 120 % of rated current.

Power mains

Rated voltage	220/230 V
Rated frequency	50 Hz

Operating temperature 0...40 °C

Relative humidity up to 80 % non-condensing

Size (W × H × D)

M500	470 × 150 × 390 mm
M500E1	115 × 355 × 225 mm

Weight (Main unit)

M500	17 kg
M500E1	7 kg

Standards

Safety	EN 61010-1:2010
EMC	EN 61326-1:2013

ORDERING INFORMATION

Scope of supply

The following items are supplied with the standard M500 modification:

No	Item	Part no.	
1	Main Unit M500.1* M500.2 M500.3	671221.021-01 671221.021-02 671221.021-03	
2	IC500 Instrument cable	685614.007-01	
3	USB to RS-232 Adapter	—	
4	Serial port interface cable RS-232 Null Modem Cable DB9 F/F	—	
5	Mains cable 10 A EU (CEE 7/XVII - C13)	—	
6	M500 Bag	CA535.900	
7	Operating manual	671221.022 OM	
8	Passport	671221.022 P	
Additional order			
9	M500E1 Range Extender	671221.023	
10	IC500E1 Instrument cable	685614.004	
11	M500E1 Bag	S3U255	

* Version is determinated when ordering.

OLTEST LLC (UKRAINE)

Development and production
of measurement devices

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