TM200

Digital Timer

User's Manual

Megger

WWW.MEGGER.COM

Art No. ZP-BE02E	Doc. BE0058JE	V03a	2016

Megger

TM200

Digital Timer

User's Manual

NOTICE OF COPYRIGHT & PROPRIETARY RIGHTS

© 2010-2016, Megger Sweden AB. All rights reserved.

The contents of this manual are the property of Megger Sweden AB. No part of this work may be reproduced or transmitted in any form or by any means, except as permitted in written license agreement with Megger Sweden AB. Megger Sweden AB has made every reasonable attempt to ensure the completeness and accuracy of this document. However, the information contained in this manual is subject to change without notice, and does not represent a commitment on the part of Megger Sweden AB. Any attached hardware schematics and technical descriptions, or software listings that disclose source code, are for informational purposes only. Reproduction in whole or in part to create working hardware or software for other than Megger Sweden AB products is strictly prohibited, except as permitted by written license agreement with Megger Sweden AB.

TRADEMARK NOTICES

Megger® and Programma® are trademarks registered in the U.S. and other countries. All other brand and product names mentioned in this document are trademarks or registered trademarks of their respective companies.

Megger Sweden AB is certified according to ISO 9001 and 14001.

Postal address:
Megger Sweden AB
Box 724
SE-182 17 DANDERYD
SWEDEN

Visiting address:
Megger Sweden AB
Rinkebyvägen 19
SE-182 36 DANDERYD
SWEDEN

T +46 8 510 195 00
F +46 8 510 195 95

seinfo@megger.com
www.megger.com

CE

1 Safety

Symbols on the instrument

Caution, refer to accompanying documents.

Protective conductor terminal.

WEEE, Waste Electrical and Electronic Equipment. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable requirements.

Safety instructions

WARNING

Always keep the equipment connected to protective earth (ground), when any input lead is connected.

High voltage on input terminals

Always use safety connecting leads

IMPORTANT

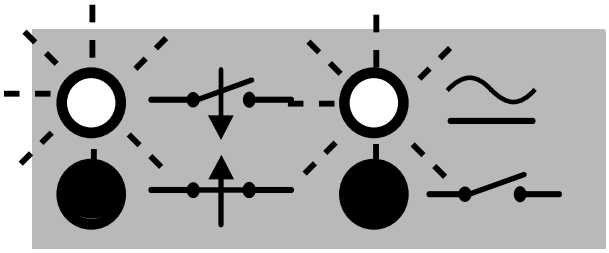
Do not use liquid detergents or aerosols when cleaning TM200. Use a damp cloth.

2 Operating instructions

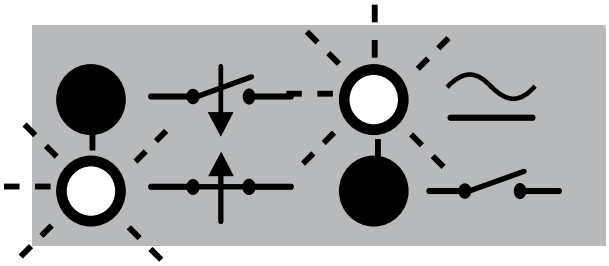
Use the following setup to start and stop the timer.

When activating with:

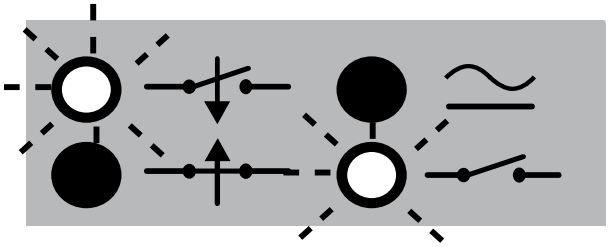
A. Applying voltage



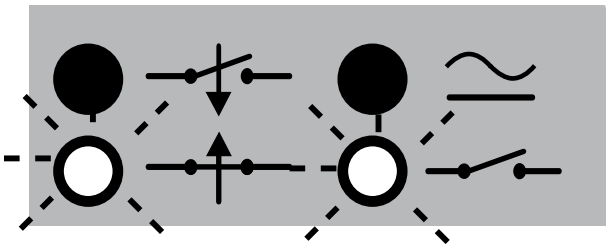
B. Removing voltage



C. Closing contact



D. Open contact



Any combination of start and stop can be selected. The reset button sets the time to zero, and enables a new start.

Example

If you want to measure the operation time for a 24 V DC contactor with 110 V DC over a closing contact under load.

1] Connect the TM200 to protective ground (earth).

2] Set the buttons to start as A, “Applying voltage”.

3] Connect the start leads across the contactor coil (regardless of polarity).

4] Set the stop buttons as A, “Applying voltage”.

5] Connect the stop leads across the load (regardless of polarity). If it is desired to measure directly at the contact, set the stop buttons as B, “Removing voltage”.

3 Specifications

Specifications TM200

Specifications are valid at nominal input voltage and an ambient temperature of +25°C, (77°F). Specifications are subject to change without notice.

Environment

Application field	The instrument is intended for use in medium-voltage substations and industrial environments. Altitude <2000 m (6500 ft) above sea level.

Temperature

Operating	0°C to +50°C (32°F to +122°F)
Storage & transport	-20°C to +70°C (-4°F to +158°F)
Humidity	5% – 95% RH, non-condensing

CE-marking

LVD	2006/95/EC
EMC	2004/108/EC

General

Power supply 5 V DC via separate adapter	Input: 100/240 V AC, 50/60 Hz Output: 5.0 V DC, 2.40 A

Dimensions

Instrument, excl. handle	194 x 115 x 49 mm (7.7" x 4.5" x 1.9")
Instrument, incl. handle	252 x 132 x 49 mm (9.9" x 5.2" x 1.9")
Weight	1.0 kg (2.2 lbs) 2.8 kg (6.2 lbs) with accessories and carrying case
Test lead set, with touch-proof contacts	4 x 2 m (6.6 ft), 2.5 mm²

Measurement section

Range	0-999.999 s
Resolution	1 ms
Inaccuracy	±0.02% + 1 digit of displayed value

Timer inputs

Input voltage	250 V AC/DC (max)

Voltage mode

Parameter	*Min*	*Max*	*Unit*
Threshold level, Positive at red terminal	8	20	V DC
Threshold level, Negative at red terminal	-20	-8	V DC
Input current at threshold level Positive at red terminal	0.7	2.0	mA DC
Input current at threshold level Positive at black terminal	4	12	mA DC
Threshold level, low to high, 50 Hz	5	15	V AC$_{RMS}$
Threshold level, high to low, 50 Hz	15	45	V AC$_{RMS}$

Contact mode

Parameter	*Min*	*Max*	*Unit*
Closed contact detection	0	1	kΩ
Open contact detection	4	-	kΩ
Open circuit voltage	17	20	V DC
Short circuit current	8	13	mA DC

Input current at maximum input voltage, inrush

Parameter	*Max*	*Unit*
At 250 V DC, Positive at red terminal	8	mA DC
At 250 V DC, Positive at black terminal	150	mA DC
At 250 V AC	80	mA DC

Input current at maximum input voltage, continuous

Parameter	*Max*	*Unit*
At 250 V DC, Positive at red terminal	8	mA DC
At 250 V DC, Positive at black terminal	12	mA DC
At 250 V AC	15	mA DC

Your "One Stop" Source for all your electrical test equipment needs

- Battery Test Equipment
- Cable Fault Locating Equipment
- Circuit Breaker Test Equipment
- Data Communications Test Equipment
- Fiber Optic Test Equipment
- Ground Resistance Test Equipment
- Insulation Power Factor (C&DF) Test Equipment
- Insulation Resistance Test Equipment
- Line Testing Equipment
- Low Resistance Ohmmeters
- Motor & Phase Rotation Test Equipment
- Multimeters
- Oil Test Equipment
- Portable Appliance & Tool Testers
- Power Quality Instruments
- Recloser Test Equipment
- Relay Test Equipment
- T1 Network Test Equipment
- Tachometers & Speed Measuring Instruments
- TDR Test Equipment
- Transformer Test Equipment
- Transmission Impairment Test Equipment
- Watthour Meter Test Equipment
- STATES® Terminal Blocks & Test Switches
- Professional Hands-On Technical and Safety Training Programs

Megger is a leading global manufacturer and supplier of test and measurement instruments used within the electric power, building wiring and telecommunication industries.

With research, engineering and manufacturing facilities in the USA, UK, Germany and Sweden, combined with sales and technical support in most countries, Megger is uniquely placed to meet the needs of its customers worldwide.

Megger is certified according to ISO 9001 and 14001. Megger is a registered trademark.

Megger Group Limited
UNITED KINGDOM
Dover, Kent CT17 9EN
ENGLAND

- AUSTRALIA
- BULGARIA
- CANADA
- CZECH REPUBLIC
- CHINA
- FRANCE
- GERMANY
- HUNGARY
- INDIA
- INDONESIA
- KINGDOM OF BAHRAIN
- KOREA
- MALAYSIA
- PAKISTAN
- PHILIPPINES
- POLAND
- ROMANIA
- RUSSIA
- SINGAPORE
- SLOVAK REPUBLIC
- SOUTH AFRICA
- SPAIN
- SWEDEN
- SWITZERLAND
- TAIWAN
- THAILAND
- UNITED ARAB EMIRATES
- USA
- VIETNAM

CE

Megger®

WWW.MEGGER.COM

Postal address:
Megger Sweden AB
Box 724
SE-182 17 DANDERYD
SWEDEN

Visiting address:
Megger Sweden AB
Rinkebyvägen 19
SE-182 36 DANDERYD
SWEDEN

T +46 8 510 195 00
F +46 8 510 195 95

seinfo@megger.com
www.megger.com

Subject to change without notice. Printed matter No. ZP-BE02E | Doc. BE0058JE | V03a | 2016