MH Protection Relays

A Protection Class Of Its Own

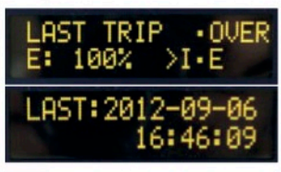
MH Protection Relays
- A New Touch of Class

The MH Protection Relay in its 4th generation continues a legacy of technological design and development in electrical systems protection.

Anchored on the proprietary MTB Fault Indication System, the MH Protection Relay offers an unrivalled protection standard and accuracy. The MH IDMTL Protection Relays also features a first-of-its-kind, OLED Display (Organic Light Emitting Diode) that reads with crisp sharpness and clarity.

With the added value exceeding benchmarks, the MH protection relay series is no doubt, A Protection Class of its Own.

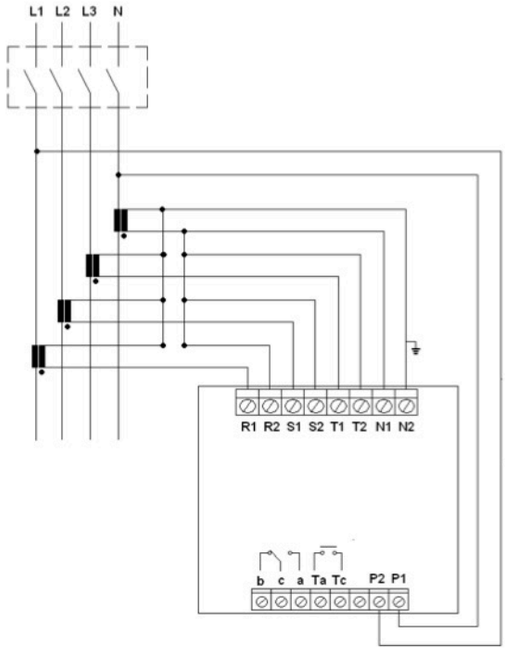
Communiction interface RS485 (Modbus RTU) option for pluggable modules



Direct access of trip event info with real time/date stamp

Added security against nuisance trip handling

MTB System Protection



About MTB Fault Indication System

MTB, or Mechanical Trip Button is a fault indication system incorporated in advanced protection relaying for electrical power networks. The MTB does not require auxiliary supply to provide a fault indication. The MTB is designed to prevent power circuits from re-energising before a fault is completely rectified. This is an essential safety feature which protection relays using electrical latching mechanisms are not able to provide.

Integrates OLED display for superior readability in high resolution

EMC type tested in accordance with IEC 61000

Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1

REA 200n

Combined IDMTL Overcurrent & Earth Fault Relay

The MH REA200n is designed as a universal, digital microprocessor-based protective relay, integrating both the overcurrent and earth fault protection schemes for definite and inverse time characteristics within one compact unit.

Featuring a first-of-its kind, OLED Display (Organic Light Emitting Diode), the REA200n provides unparalleled clarity and crisp sharpness, alongside the enhanced functions such as communication interfaces, diagnostic features such as fault data recording with real time/date stamp.

Features

- OLED display for superior readability
- Redesigned menu navigation for intuitive operation
- Dual source 85-265V AC/DC for auxiliary supply
- Streamlined 46mm depth with bezel cover
- Added security against nuisance trip handling
- Manual test button for relay operation checking
- No requirement for auxiliary power supply for fault indication
- Safeguard against automatic reset before fault rectification
- Curve selection in accordance with ANSI, IAC, IEC, 1.3/10
  - Normally Inverse (NI)
  - Very Inverse (VI)
  - Extremely Inverse (EI)
  - Short time Inverse (STI)
  - Moderate Inverse (MI)
- Trip value recording (4-memory)
- Integrated surge arrester against transient overvoltages
- High set mode is incorporate for instantaneous protection
- Tamper-proof design for settings protection
- Serial interface RS485 for Modbus RTU communication (Optional)

Standards

Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
EMC type tested in accordance with IEC 61000
IEC/EN 60755
IEC/EN 61000-4-2
IEC/EN 61000-4-3
IEC/EN 61000-4-4
IEC/EN 61000-4-5
IEC/EN 61000-4-6
IEC/EN 60255-1
IEC/EN 60255-5

Device Configuration

- Overcurrent setting: 20 – 200% (1% per step)
- Earth Fault setting: 2 – 50% (0.1% per step)
- Time setting range: 0.09 – 3 sec at 10* setting current
  0.039 – 1.3 sec at 10* setting current
- DTL: 0.1 – 2 sec (0.01 sec per step)
- Instantaneous Mode (High set): 2 – 10* setting current

ROA 207N

IDMTL Overcurrent Relay

Based on digital microprocessor technology, the MH ROA207n is designed as a universal overcurrent protective relay, integrating selectable time overcurrent characteristic curves. With digital processing of input values, the ROA207n offers high measuring accuracy and a wide setting range in fine resolution.

Featuring a first-of-its kind, OLED Display (Organic Light Emitting Diode), the ROA207n provides unparalleled clarity and crisp sharpness, alongside the enhanced functions such as communication interfaces, diagnostic features such as fault data recording with real time/date stamp.

Features

- OLED display for superior readability
- Redesigned menu navigation for intuitive operation
- Dual source 85-265V AC/DC for auxiliary supply
- Streamlined 46mm depth with bezel cover
- Added security against nuisance trip handling
- Manual test button for relay operation checking
- No requirement for auxiliary power supply for fault indication
- Safeguard against automatic reset before fault rectification
- Curve selection in accordance with ANSI, IAC, IEC, 1.3/10
  - Normally Inverse (NI)
  - Very Inverse (VI)
  - Extremely Inverse (EI)
  - Short time Inverse (STI)
  - Moderate Inverse (MI)
- Trip value recording (4-memory)
- Integrated surge arrester against transient overvoltages
- High set mode is incorporate for instantaneous protection
- Tamper-proof design for settings protection
- Serial interface RS485 for Modbus RTU communication (Optional)

Standards

Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
EMC type tested in accordance with IEC 61000
IEC/EN 61000-4-2
IEC/EN 61000-4-3
IEC/EN 61000-4-4
IEC/EN 61000-4-5
IEC/EN 61000-4-6
IEC/EN 60255-1
IEC/EN 60255-5

Device Configuration

- Overcurrent setting: 20 – 200% (1% per step)
- Time setting range: 0.09 – 3 sec at 10* setting current
  0.039 – 1.3 sec at 10* setting current
- Instantaneous Mode (High set): 2 – 10* setting current

REF 052N

IDMTL Earth Fault Relay

Based on digital microprocessor technology, the MH REF052n is designed as a universal earth fault protective relay, integrating selectable time earth fault characteristic curves. With digital processing of input values, the REF052n offers high measuring accuracy and a wide setting range in fine resolution.

Featuring a first-of-its kind, OLED Display (Organic Light Emitting Diode), the REF052n provides unparalleled clarity and crisp sharpness, alongside the enhanced functions such as communication interfaces, diagnostic features such as fault data recording with real time/date stamp.

Features

- OLED display for superior readability
- Redesigned menu navigation for intuitive operation
- Dual source 85-265V AC/DC for auxiliary supply
- Streamlined 46mm depth with bezel cover
- Added security against nuisance trip handling
- Manual test button for relay operation checking
- No requirement for auxiliary power supply for fault indication
- Safeguard against automatic reset before fault rectification
- Curve selection in accordance with ANSI, IAC, IEC, 1.3/10
  - Normally Inverse (NI)
  - Very Inverse (VI)
  - Eemely Inverse (EI)
  - Short time Inverse (STI)
  - Moderate Inverse (MI)
- Trip value recording (4-memory)
- Integrated surge arrester against transient overvoltages
- High set mode is incorporate for instantaneous protection
- Tamper-proof design for settings protection
- Serial interface RS485 for Modbus RTU communication (Optional)

Standards

Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
EMC type tested in accordance with IEC 61000
IEC/EN 61000-4-2
IEC/EN 61000-4-3
IEC/EN 61000-4-4
IEC/EN 61000-4-5
IEC/EN 61000-4-6
IEC/EN 60255-1
IEC/EN 60255-5

Device Configuration

- Earth Fault setting: 2 – 50% (0.1% per step)
- Time setting range: 0.09 – 3 sec at 10* setting current
  0.039 – 1.3 sec at 10* setting current
- DTL: 0.1 – 2 sec (0.01 sec per step)
- Instantaneous Mode (High set): 2 – 10* setting current

EF 18
DTL Earth Fault Relay

The Earth Fault Relay EF18 is designed to monitor power system and provides a relay operation in event of an earth fault situation. The EF18 relay incorporates the MTB fault indication system in advanced protection relaying for system abnormalities. This eliminates the need of an auxiliary supply to provide a fault indication, ensuing enhanced safety.

Features

- Mechanical Trip Button (MTB) fault indication system
- No requirement for auxiliary power supply for fault indication
- Safeguard against automatic reset before fault rectification
- Tamper-proof design for setting protection
- Type tested* for EMC compliance in acc. With IEC 61000
- High immunity to electrical interference (tested to 2.5GHz)
- Type tested in acc. With IEC 60255*

Device Configuration

- Current setting: 0.1 – 2A
- Delay time setting: 0 – 1 sec

Standards

Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
EMC type tested in accordance with IEC 61000
IEC/EN 61000-4-2
IEC/EN 61000-4-3
IEC/EN 61000-4-4
IEC/EN 61000-4-5
IEC/EN 61000-4-6
IEC/EN 60255-1
IEC/EN 60255-5

EL Series
Earth Leakage Relay

With the MH Earth Leakage Relay available in either din-rail or panel mount type with wide current/ time selectivity, the MH EL series is a versatile solution for residual current protection for all levels of low voltage installations, from low-voltage lines to power distribution, up to terminal distribution, ensuring a high level of service continuity.

Features

- Manual test button for relay operation checking.
- Real-time monitoring of leakage current [%].
- Detection of 'No-connection' to ZCT (Zero Phase Current Transformer).
- Tamper-proof design for settings protection.
- Type tested1) for EMC compliance in acc. with IEC 61000.
- High immunity to electrical interference (tested to 2.5GHz).
- Type tested for operational accuracy in acc. with IEC 60255-1.
- Highest accuracy ZCT (> 1,000 ampere-turns transformations).
- Type tested in accordance with IEC 60044.

Device Configuration

- Sensitivity current setting: 0.03 – 30A
- Operating time: 0 – 5 secs

Standards

- Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
- EMC type tested in accordance with IEC 61000
- IEC/EN 60755
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5

CTZ Series

Zero Phase Current Transformers

The MH Earth Leakage Relay series are combined with a wide range of zero phase current transformers with diameter from 35mm to 140mm, providing the maximum application flexibility for an effective protection in every point of the system.

Features

- Type tested1) for EMC compliance in acc. with IEC 61000.
- High immunity to electrical interference (tested to 2.5GHz).
- Type tested for operational accuracy in acc. with IEC 60255-1.
- Highest accuracy ZCT (> 1,000 ampere-turns transformations).
- Type tested in accordance with IEC 60044.

Standards

- Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
- EMC type tested in accordance with IEC 61000
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5
- IEC 60044-1

OA 703

DTL Overcurrent Relay

The Overcurrent Relay OA703 is designed to monitor the respective phase currents of the power system and provides a relay operation in event of an overcurrent situation. The ROA207 relay incorporates the MTB fault indication system in advanced protection relaying for system abnormalities. This eliminates the need of an auxiliary supply to provide a fault indication, ensuing enhanced safety.

Features

- Mechanical Trip Button (MTB) fault indication system
- No requirement for auxiliary power supply for fault indication
- Safeguard against automatic reset before fault rectification
- Trip status indication for individual phases
- Tamper-proof design for setting protection
- Type tested* for EMC compliance in acc. With IEC 61000
- High immunity to electrical interference (tested to 2.5GHz)
- Type tested in acc. With IEC 60255*

Device Configuration

- Current setting: 2 – 7A
- Delay time setting: 0 – 1 sec (10 sec optional)

Standards

- Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
- EMC type tested in accordance with IEC 61000
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5

OUV 400

Over & Undervoltage Relay

The Over & Undervoltage relay OUV400 is designed to monitor the voltage levels of the power system and provides a relay operation in event of an over or undervoltage situation. Incorporating microprocessor-based technology, the OUV400 offers high measuring accuracy and a wide adjustment options.

Features

- Microprocessor-based with highest accuracy
- Manual test button for relay operation checking
- Real-time monitoring of voltage levels
- With over & undervoltage mode selection
- Voltage monitoring ranges from 100 – 480VAC
- Trip value recording (4-memory)
- Integrated surge arrester against transient overvoltages
- Tamper-proof design for settings protection
- Serial interface RS485 for Modbus RTU communication (optional)
- Type tested for EMC compliance in acc. with IEC 61000

Device Configuration

- Overvoltage setting: 100 – 130%
- Undervoltage setting: 70 -100%
- Operating time setting: 0 – 60 sec

Standards

- EMC type tested in accordance with IEC 61000
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5

REA 200e

Combined IDMTL Overcurrent & Earth Fault Relay

A similar, but simplified version of MH combined IDMTL overcurrent and earth fault relay REA 200, the REA200e provides elementary protection functions excluding the MTB fault indication system.

ROA 207e

IDMTL Overcurrent Relay

A similar, but simplified version of MH IDMTL overcurrent relay, ROA207, the ROA207e provides elementary protection functions excluding the MTB fault indication system.

REF 052e

IDMTL Earth Fault Relay

A similar, but simplified version of MH IDMTL earth fault relay, REF052, the REF052e provides elementary protection functions excluding the MTB fault indication system.

Features

- Designed with LED display
- Added security against nuisance trip handling
- Manual test button for relay operation checking
- Curve selection in accordance with ANSI, IAC, IEC, 1.3/10
  - Normally Inverse (NI)
  - Very Inverse (VI)
  - Extremely Inverse (EI)
  - Short time Inverse (STI)
  - Moderate Inverse (MI)
- Trip value recording (4-memory)
- Integrated surge arrester against transient overvoltages
- High set mode is incorporate for instantaneous protection
- Tamper-proof design for settings protection
- Serial interface RS485 for Modbus RTU communication (Optional)

Standards

- Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
- EMC type tested in accordance with IEC 61000
- IEC/EN 60755
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5

EF 18e
DTL Earth Fault Relay

A similar, but simplified version of MH DTL earth fault relay EF18, the EF18e provides elementary protection functions excluding the MTB fault indication system.

Features

- Tamper-proof design for setting protection
- Type tested* for EMC compliance in acc. With IEC 61000
- High immunity to electrical interference (tested to 2.5GHz)
- Type tested in acc. With IEC 60255*

Standards

- Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
- EMC type tested in accordance with IEC 61000
- IEC/EN 60755
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5

OA 703e

DTL Overcurrent Relay

A similar, but simplified version of MH DTL overcurrent relay OA703, the OA703e provides elementary protection functions excluding the MTB fault indication system.

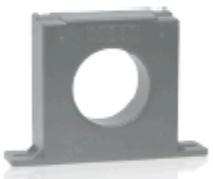
Features

- Trip status indication for individual phases
- Tamper-proof design for setting protection
- Type tested* for EMC compliance in acc. With IEC 61000
- High immunity to electrical interference (tested to 2.5GHz)
- Type tested in acc. With IEC 60255*

Standards

- Type tested for vibration and mechanical shock test in accordance with IEC 60255-21-1
- EMC type tested in accordance with IEC 61000
- IEC/EN 61000-4-2
- IEC/EN 61000-4-3
- IEC/EN 61000-4-4
- IEC/EN 61000-4-5
- IEC/EN 61000-4-6
- IEC/EN 60255-1
- IEC/EN 60255-5


G/F: CURVE TIME
DTL 1.00



Singapore
MUN HEAN SINGAPORE PTE LTD
51 Kim Keat Road, Unit 05-01/02
Mun Hean Industrial Building
Singapore 328821
Tel: +65-6250 0522
Fax: +65-6253 6885 / +65-6253 5879
Email: munheansing@munhean.com.sg

Malaysia
MUN HEAN (MALAYSIA) SDN BHD
No. 15, Jalan SS26/6 Taman Mayang Jaya
47301 Petaling Jaya
Selangor Darul Ehsan, Malaysia
Tel: +603-7804 2288
Fax: +603-7803 1185
Email: munheanmy@munhean.com.my

Hong Kong
MUN HEAN ELECTRICAL ENGINEERING (HK) CO., LTD
Room 2304, 23/F Kodak House II
39 Healthy Street East, North Point
Hong Kong
Tel: +852-2873 1711
Fax: +852-2518 7013
Email: munheanhk@munhean.com.hk

Philippines
MH POLY-ELECTROMECHS, INC.
No. 15 N. Domingo St. Brgy. Valencia Hills,
Quezon City 1112 Philippines
Tel: +632-722 1493 / +632-727 8544
Fax: +632-725 3770
Email: mhpoly@munhean.com.ph

Indonesia
PT MUNHEAN PUMA PERKASA
Jl. Tanjung Duren Barat I No. 27 - 27A,
Tanjung Duren Utara, Grogol, Petamburan,
Jakarta Barat 11470, Indonesia
Tel: +62 21-5695 8826
Fax: +62 21-567 3671
Email: munheanindo@mhpp-electric.com

China
MUN HEAN HONG FEI (BEIJING) TECHNOLOGY CO., LTD
Room 3-2223, Gold Spring Times
No.317, Datun Li, Chaoyang District,
Beijing 100101, China
Tel: +86 10-8483 9722
Fax: +86 10-8483 9721
Email: mhhf@munhean.com.cn

Taiwan
MH POWER CO., LTD
4th Fl., No. 5 Alley 11,
Lane 327, Chunghe District
New Taipei City, Taiwan, R.O.C.
Tel: +886 2-2242 5501
Fax: +886 2-2246 1694
Email: mhp@mhpower.com.tw

Vietnam
MUN HEAN VIETNAM CO. LTD
68 Nguyen Quy Duc Street,
An Phu Ward, District 2,
Ho Chi Minh City, Vietnam
Tel: +84 8-6281 0819
Fax: +84 8-6281 0815
Email: munheanvn@munhean.com.vn

Myanmar
MH POWER MYANMAR CO., LTD
No. 96 Yadanar Myaing Street,
Off Yangon-Insein Road (West Side)
Kamaryut Township, Yangon, Myanmar
Tel: +95 1-505364
Fax: +95 1-505364
Email: mhmyanmar@munhean.com

www.munhean.com