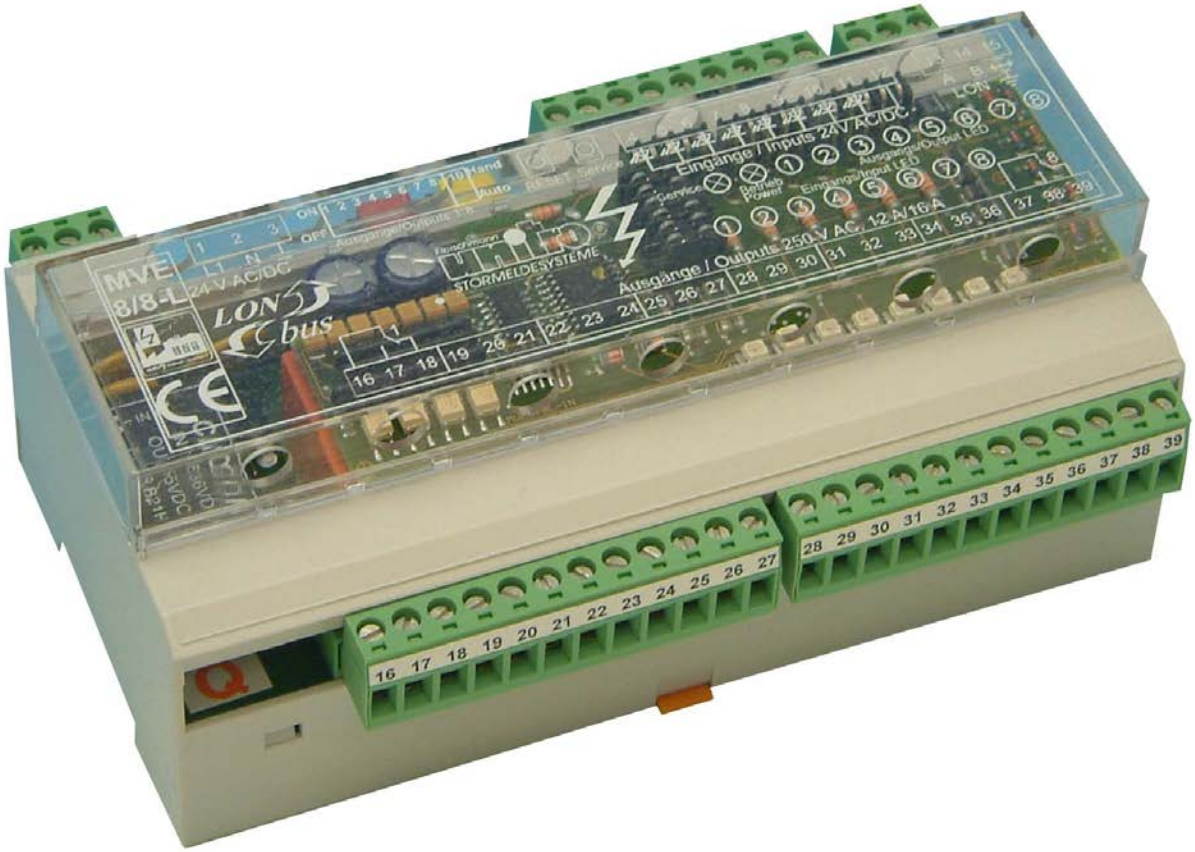
MVE-series

since 1971 - the power to control

Fleischmann unitro®
STÖRMELDESYSTEME

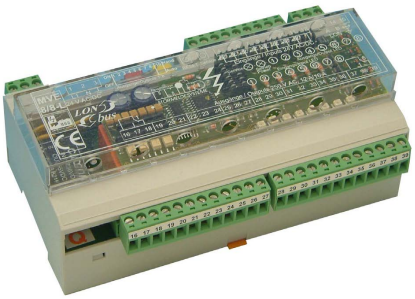

MVE 8/8-H
LON bus
Input manuell
Output manuell
Power
Reset
Service
16 17 18 19 20 21 22 23 24


MVE 8/8-L
24 V AC/DC
LON bus
STÖRMELDESYSTEME
Eingänge / Inputs 24 V AC/DC
Ausgänge / Outputs 250 V AC, 12 A/16 A
16 17 18 19 20 21 22 23 24 25 26 27
28 29 30 31 32 33 34 35 36 37 38 39

Overview MVE series

General data:

Creepage distances: UNITRO-Standard
Degree of protection: IP20
Climatic conditions: UNITRO-Standard
EMC-values: UNITRO-Standard
Status indicating with LEDs
Transparent cover with transparent technology



Type	**MVE 8/0**	**MVE16/0**	**MVE 0/8(-H)**	**MVE0/16**	**MVE 8/8**	**MVE 0/3w**	**MVE 0/6w**	**MVE 8/3w**	**MVE 0/3w8s**	**MVE 8/8-L (0/8)**	**MVE 0/8-E**
Function	8x digital Inputs	16x digital Inputs	8x digital Outputs	16x digital Outputs	8x digital In- and Outputs	3x digital Outputs change-over	6x digital Outputs change-over	8x digital Inputs 3x dig Outputs change-over	3x digital Outputs change-over 8x digital Outputs normally open	8x digital Inputs and or 8x Outputs change-over	8x digital Outputs (max. 8x 6 EVGs)
Dimensions in mm	100x75x85	100x75x85	100x75x85	100x75x85	100x75x85	100x75x85	100x75x85	100x75x85	100x75x85	150x75x60	150x75x60
Weight approx.	270g	300g	270g	300g	300g	270g	300g	300g	300g	520g (450 g)	520g
Connection terminals	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2	Screw-type terminals/ plug connection max. 2,5mm^2
Power supply	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 100mA, ± 10% or **85-265VAC / 85-250VDC,** 100mA	24V AC/DC 120mA, ± 10% or **85-265VAC/ 85-250VDC** 6VA	24V AC/DC 120mA, ± 10%
Isolated inputs	24V AC/DC or 230V AC 7mA $2000V_{rms}$	24V AC/DC or 230V AC 7mA $2000V_{rms}$			24V AC/DC or 230V AC 7mA $2000V_{rms}$			24V AC/DC or 230V AC 7mA $2000V_{rms}$		230VAC, 3mA 24V AC/DC 6mA $2000V_{rms}$	
Isolated outputs			**Normally open** max. 250V AC, 5A 25V DC, 5A $2000V_{rms}$	**Normally open** max. 250V AC, 5A 25V DC, 5A $2000V_{rms}$	**Normally open** max. 250V AC, 5A 25V DC, 5A $2000V_{rms}$	**Change-over** max. 250V AC,5A 25V DC, 5A $2000V_{rms}$	**Change-over** max. 250V AC,5A 25V DC, 5A $2000V_{rms}$	**Change-over** max. 250V AC,5A 25V DC, 5A $2000V_{rms}$	**Normally open** and **change-over** max. 250V AC, 5A 25V DC, 5A $2000V_{rms}$	**Change-over** max. 250V AC, 16A $2000V_{rms}$	**Normally open** max. 250V AC, 16A $2000V_{rms}$
Neuron chip	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz	3150 / 10MHz
Memory capacity	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash	64kB Flash
Bus-Transceiver	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP	FTT 10A TP
Special functions	**Type add. H:** Inputs with manual emergency switches	**Type add. H:** Inputs with manual emergency switches	**Type add. H:** Outputs with manual emergency switches	**Type add. H:** Outputs with manual emergency switches	**Type add. H:** In- and outputs with manual emergency switches			**Type add. H:** Inputs with manual emergency switches	**Type add. H:** Outputs (normally open) with manual emergency switches	Outputs with manual emergency switches **max. inrush current 80A, 20ms**	Outputs with manual emergency switches **max. inrush current 120A, 20ms**
Available software. Standard software packages on the Internet	Metering functions, Timer SNVT`s									Switch Lamp Actuator sunblind	

MVE 8/0, 16/0, 8/8, 8/3w, 0/8, 0/16 …
digital In- Output modules
for distributor installation
(option with emergency switches)

Type designation:

MVE 8/0, 16/0 (i) (H)
modules with 24V AC/DC or 230VAC inputs
(24V optional internal supply (i) and/or
with emergency switches (H))

MVE 8/8, 8/3w (i) (H)
modules with 24V AC/DC or 230VAC inputs
(24V optional internal supply (i) and/or
with emergency switches (H)) and
relay outputs max. 250V AC, 5A,
normally open or change-over (w)

MVE 0/8, 0/16, 0/3w, 0/6w, 03w8s (H)
modules with relay outputs max.250V AC, 5A,
normally open or change-over (w) and/or
with emergency switches (H)

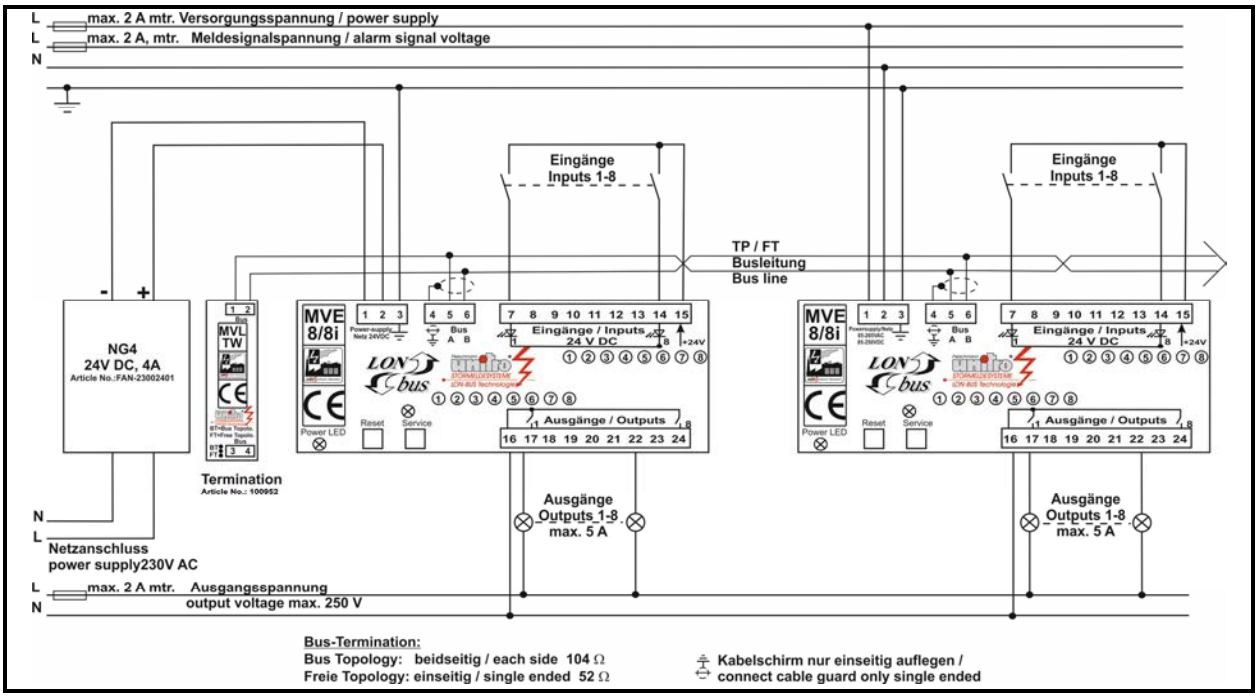
System features:

- Snap-on housing for distributor installation in snap-on breakers design
  100 x 75 x 45 (85)mm high
- Degree of protection IP20
- Wide-range power supply with **85-265V AC / 85-250V DC** or 24V AC/DC, 100mA ±10%
- Network, input and output cards internally-positioned and combined
- Screw terminal plug connection max. 2,5mm²
- Available types:

MVE 8/8	8x IN and 8x OUT (normally open)
MVE 16/0	16x IN
MVE 8/0	8x IN
MVE 0/16	16x OUT (normally open)
MVE0/8	8x OUT (normally open)
MVE0/3w	3x OUT (change-over)
MVE0/6w	6x OUT (change-over)
MVE8/3w	8x IN and 3x OUT (change-over)
MVE0/3w8s	3x OUT (change-over) and 8x OUT (normally open)

- Option with **emergency switches** (type **-H**)
- Option with **lead-out 24V DC signal voltage** (type **-i**)
- EMC-values: UNITRO-Standard in accordance with EN 61000

Connection diagram MVE 8/8i



Technical data:

1. Type of construction:
   snap-on housing
   100 x 75 x 45 (85)mm high
2. Degree of protection:
   IP20
3. Weight:
   approx. 300g,
   depending on equipment variant
4. Climatic conditions:
   in accordance with UNITRO-Standard
5. Connection:
   screw-type terminals/ plug connection
   max. 2,5mm²
6. Function buttons:
   reset button
   service button
7. Supply voltage:
   24V AC/DC, 100mA **(± 10%)**,
   230V AC/DC **(= 85-265V AC, 85-250V DC)**,
   100mA
8. Max. fuse:
   4A medium slow
9. Signal voltage:
   24V AC/DC ± 10%, 6mA
   230V AC ± 10%, 6mA
10. Response delay:
    25ms
11. Minimum signal duration:
    5ms
12. LED-display:
    operating LED green
    service LED yellow: flashing = device not initialized
    continuous light = error
    for every input and output each 1x red LED
13. Neuron chip:
    3150, 10 MHz + 64kB Flash-EEPROM
14. Transmission:
    LON FTT10A two wire (twisted-pair),
    78kbps, max. 2,7km
15. Bus connection:
    isolated transceiver, 500V disconnecting
    insulation voltage
16. Relay outputs:
    isolated normally open: 250V AC, 5A / 25V DC, 5A
    isolated change-over: 250V AC, 5A / 25V DC, 5A
    disconnecting voltage: 2000V_{rms}

    inductive load (contactors):
    mount-in anti-interference capacitors at the coils,
    when driving roller shutter / blind motors, etc. by NO, is for
    an external interlock (up / down) to make!

    option **-H**: **with manual emergency switches**
17. Leakage distances and clearances:
    in accordance with UNITRO-Standard
18. EMC, immunity of interference:
    UNITRO-Standard,
    in accordance with EN 61000

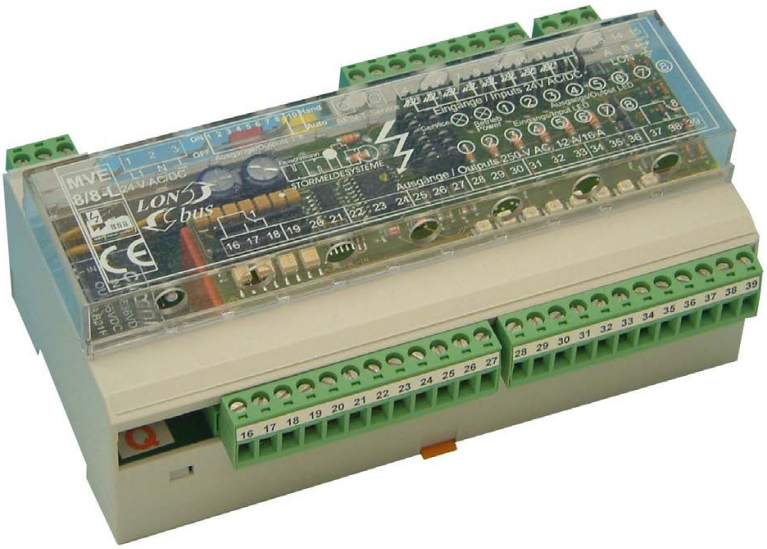
MVE 0/8-E, 0/8-L, 8/8-L
digital In- Output modules
with emergency switches and on-load relay
for distributor installation

Type designation:

MVE 0/8-E
outputs with **normally open** relay,
outputs max. 230V AC, 16A,
max. **inrush current 120A**, 20ms

MVE 0/8-L
outputs with **change-over** relay,
output max. 230V AC, 16A,
max. **inrush current 80A**, 20ms

MVE 8/8-L
outputs with **change-over** relay,
output max. 230V AC, 16A,
max. **inrush current 80A**, 20ms
inputs: 24V AC/DC or 230V AC

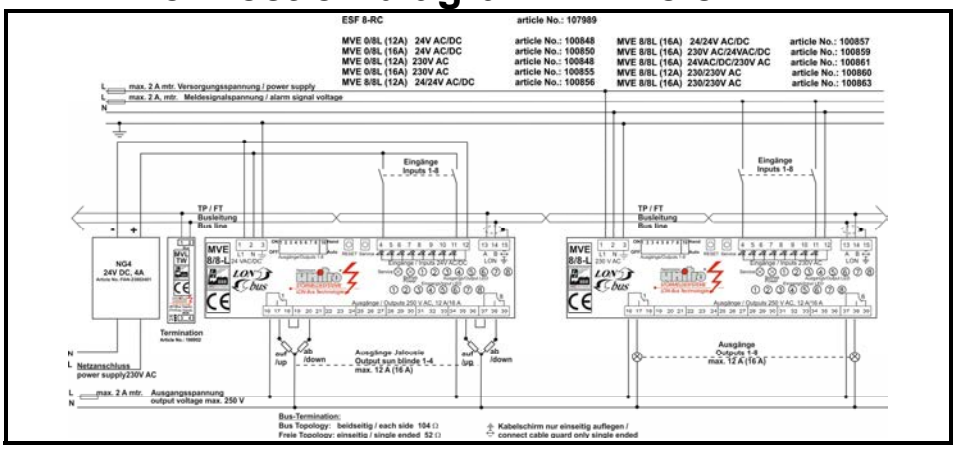


System features:

- Snap-on housing for distributor installation in snap-on breakers design
  100 x 75 x 45 (85)mm high
- Degree of protection IP20
- Wide-range power supply with **85-265V AC / 85-250V DC** or 24V AC/DC, 150mA ± 10%
- Hight-current screw-type terminals, plug connection for connection 2,5mm²
- 8 isolated change-over contacts (MVE 0/8-E normally open) with max. 250V AC, 16A,
  inrush current max. **80A**, 20ms (MVE 0/8-E, **120A**, 20ms),
  qualified to switch max. **6 EVG** (MVE 0/8-E, max. **8 EVG)**
  (type OSRAM Quicktronic De Lux)
- **Emergency operation** to processor-independent operation of the outputs
- EMC-values: UNITRO-Standard in accordance with EN 61000

Head office: Gaildorfer Str. 15 D-71522 Backnang Tel.: +49 (0)7191/141-0 Fax: +49 (0)7191/141-299
Office Radolfzell: Westendstr. 3 D-78315 Radolfzell Tel.: +49 (0)7191/141-150 Fax: +49 (0)7191/141-299 info@unitro.de www.unitro.de

Connection diagram MVE 8/8-L



Technical data:

1. Type of construction:
   snap-on housing
   150 x 75 x 60 (85)mm high
2. Degree of protection:
   IP20
3. Weight:
   approx. 500g,
   depending on equipment variant
4. Climatic conditions:
   in accordance with UNITRO-Standard
5. Connection:
   hight-current screw-type terminals/ plug connection max. 2,5mm²
6. Function buttons:
   reset button
   service button
7. Supply voltage:
   24V AC/DC ± 10%,
   230V AC/DC **(= 85-265V AC, 85-250V DC)**,
   150mA
8. Max. fuse:
   4A medium slow
9. Signal voltage:
   24V AC/DC ± 10%, 8mA
   230V AC ± 10%, 8mA
   isolation by optocouplers 2000V_{rms}
10. Response delay:
    25ms
11. Minimum signal duration:
    5ms
12. Neuron chip:
    3150, 10 MHz + 64kB Flash-EEPROM
13. Transmission:
    LON FTT10A two wire (twisted-pair),
    78kbps, max. 2,7km
14. Bus connection:
    isolated transceiver, 500V
    disconnecting insulation voltage
15. LED-display:
    operating LED green
    service LED yellow: flashing = device not initialized
    continuous light = error
    for every input and output each 1x red LED
16. Relay outputs **MVE 0/8-L and 8/8-L:**
    8 isolated change-over contacts with **manual emergency switches:** 250V AC 16A, 30V DC, 7A
    max. switching current: normally open: 16A
    normally closed: 12A
    max. switching capacity: normally open: 4000VA
    normally closed: 3000VA
    max. inrush current: normally open contact: 80A, 20ms qualified to switch max. 6 EVG
    (type OSRAM Quicktronic De Lux)
    disconnecting voltage: contact / contact 1000V_{rms}
    contact / coil 2000V_{rms}
17. Relay outputs **MVE 0/8-E:**
    8 isolated normally open contacts with **manual emergency switches:** 250V AC 16A, 30V DC, 7A
    max. switching current: normally open: 16A
    max. switching capacity: normally open: 4000VA
    max. inrush current normally open contact: 120A, 20ms qualified to switch max. 8 EVG
    (type OSRAM Quicktronic De Lux)
    disconnecting voltage: contact / contact 1000V_{rms}
    contact / coil 5000V_{rms}
    when driving roller shutter / blind motors, etc. by NO, is for an external interlock (up / down) to make!
18. Inductive load (contactors):
    mount-in anti-interference capacitors at the coils
    e.g. **EMC suppression module EFS**
19. Leakage distances and clearances:
    in accordance with UNITRO-Standard
20. EMC, immunity of interference:
    UNITRO-Standard,
    in accordance with EN 61000

ESF suppression module

Type designation:

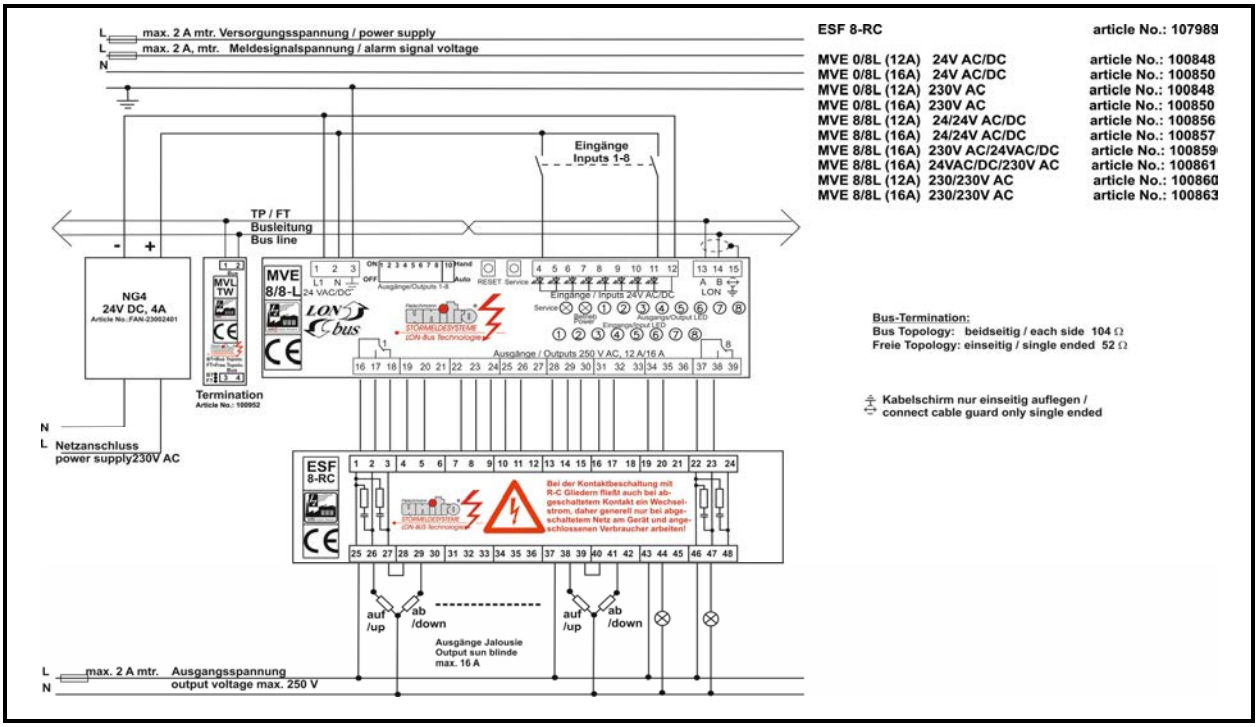
<u>ESF suppression module</u>
for the attenuation of
8 changeover contacts

System features:

- Snap-on housing for distributor installation in snap-on breakers design 106 x 90 x 58mm high
- Degree of protection IP20
- Interference suppression to attenuate 8 changeover contacts:
  - at high shutdown peak voltages (these can burn out of relay switch contacts lead)
  - to reduce RF interference (which can also function as their own neighboring devices disturb sensitive)
- **Applications: electronic ballasts, energy saving lamps, blinds and roller shutter motors, etc.**
- EMC-values: UNITRO-Standard in accordance with EN 61000

Head office: Gaildorfer Str. 15 D-71522 Backnang Tel.: +49 (0)7191/141-0 Fax: +49 (0)7191/141-299
Office Radolfzell: Westendstr. 3 D-78315 Radolfzell Tel.: +49 (0)7191/141-150 Fax: +49 (0)7191/141-299 info@unitro.de www.unitro.de

Connection diagram ESF with MVE 8/8-L



Technical data:

1. Type of construction:
   snap-on housing
   106 x 90 x 58mm high
2. Degree of protection:
   IP20
3. Weight:
   approx. 350g
4. Climatic conditions:
   in accordance with UNITRO-Standard
5. Connection:
   screw-type terminals max. 2,5mm²
6. Switching voltage and current:
   230V AC, 16A
7. Type connection:
   16x R-C elements
   with 10Ω, 0,22µF
8. Isolation voltage:
   groups between the suppressor
   2000V_{rms}
9. Function:
   interference suppression to attenuate 8 changeover contacts:
   - at high shutdown peak voltages
     (these can burn out of relay switch contacts lead)
   - to reduce RF interference (which can also function as their own neighboring devices disturb sensitive)
10. Residual current:

caution: if the contact switching elements with RC-flowing even when switched off contact an AC system, therefore, generally only work with disabled power to the unit and connected equipment!

11. Leakage distances and clearances:
    in accordance with UNITRO-Standard
12. EMC, immunity of interference:
    UNITRO-Standard,
    in accordance with EN 61000

Fleischmann unitro®
STÖRMELDESYSTEME

Gaildorfer Straße 15
71522 Backnang
Tel. +49 7191 141-0
Fax +49 7191 141-299
info@unitro.de
www.unitro.de