## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functions and characteristics</td>
<td>A-1</td>
</tr>
<tr>
<td>Installation recommendations</td>
<td>B-1</td>
</tr>
<tr>
<td>Dimensions and connection</td>
<td>C-1</td>
</tr>
<tr>
<td><strong>Compact NSX100 to 630</strong></td>
<td></td>
</tr>
<tr>
<td>Fixed circuit breakers</td>
<td>D-2</td>
</tr>
<tr>
<td>Plug-in / withdrawable circuit breakers</td>
<td>D-4</td>
</tr>
<tr>
<td>Motor mechanism</td>
<td>D-6</td>
</tr>
<tr>
<td>SDx module with Micrologic</td>
<td>D-8</td>
</tr>
<tr>
<td>SDTAM module with Micrologic M</td>
<td>D-9</td>
</tr>
<tr>
<td>Additional characteristics</td>
<td>E-1</td>
</tr>
<tr>
<td>Catalogue numbers</td>
<td>F-1</td>
</tr>
<tr>
<td>Glossary</td>
<td>G-1</td>
</tr>
</tbody>
</table>
**Wiring diagrams**

**Compact NSX100 to 630**
**Fixed circuit breakers**

### Power

<table>
<thead>
<tr>
<th>3P or 4P</th>
<th>NSX cord</th>
</tr>
</thead>
</table>

### Micrologic

#### Micrologic A or E

A/E Communication
- H(WH), L(BL): data
- -(BK), +(RD): 24 V DC power supply

A/E ZSI (Zone Selective Interlocking)
- Z1: ZSI OUT SOURCE
- Z2: ZSI OUT
- Z3: ZSI IN SOURCE
- Z4: ZSI IN ST (short time)
- Z5: ZSI IN GF (ground fault)

Note: Z3, Z4, Z5 for NSX400/630 only.

A/E ENCT: external neutral current transformer:
- shielded cable with 1 twisted pair (T1, T2)
- shielding earthed at one end only (CT end).

Connection L = 30 cm max.
- maximum length of 10 metres
- cable size 0.4 to 1.5 mm²
- recommended cable: Belden 8441 or equivalent.

E ENVT: external neutral voltage tap for connection to the neutral via a 3P circuit breaker.

### Remote operation

#### Remote operation

**Motor mechanism (MT)**
- MN: undervoltage release
- MX: shunt release

**NSX cord**
- BPO: opening pushbutton
- BPF: closing pushbutton

**Communicating motor mechanism (MTC)**
- B4, A1: motor mechanism power supply
- BSCM: breaker status and control module
**Indication contacts**

The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position.

Terms shown in red must be connected by the customer.

<table>
<thead>
<tr>
<th>Indication contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>OF2 / OF1: device ON/OFF indication contacts</td>
</tr>
<tr>
<td>OF4 / OF3: device ON/OFF indication contacts (NSX400/630)</td>
</tr>
<tr>
<td>SDE: fault-trip indication contact (short-circuit, overload, ground fault, earth leakage)</td>
</tr>
<tr>
<td>SD: trip-indication contact</td>
</tr>
<tr>
<td>CAF2/CAF1: early-make contact (rotary handle only)</td>
</tr>
<tr>
<td>CAO1: early-break contact (rotary handle only)</td>
</tr>
<tr>
<td>SDV: earth leakage fault trip indication contact (add-on Vigi module)</td>
</tr>
</tbody>
</table>

**Colour code for auxiliary wiring**

<table>
<thead>
<tr>
<th>Colour Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RD: red</td>
<td>red</td>
</tr>
<tr>
<td>VT: violet</td>
<td>violet</td>
</tr>
<tr>
<td>WH: white</td>
<td>white</td>
</tr>
<tr>
<td>GY: grey</td>
<td>grey</td>
</tr>
<tr>
<td>YE: yellow</td>
<td>yellow</td>
</tr>
<tr>
<td>OR: orange</td>
<td>orange</td>
</tr>
<tr>
<td>BK: black</td>
<td>black</td>
</tr>
<tr>
<td>BL: blue</td>
<td>blue</td>
</tr>
<tr>
<td>GN: green</td>
<td>green</td>
</tr>
</tbody>
</table>
The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position.
Indication contacts

- OF2 / OF1: device ON/OFF indication contacts
- OF4 / OF3: device ON/OFF indication contacts (NSX400/630)
- SDE: fault-trip indication contact (short-circuit, overload, ground fault, earth leakage)
- SD: trip-indication contact
- CAF2/CAF1: early-make contact (rotary handle only)
- CAO1: early-break contact (rotary handle only)
- SDV: earth leakage fault trip indication contact (add-on Vigi module)

Carriage switches

- Connected
- Disconnected

Micrologic A or E

- Communication
  - H(WH), L(BL): data
  - (BK), + (RD): 24 V DC power supply
- ZSI (Zone Selective Interlocking)
  - Z1: ZSI OUT SOURCE
  - Z2: ZSI OUT
  - Z3: ZSI IN SOURCE
  - Z4: ZSI IN ST (short time)
  - Z5: ZSI IN GF (ground fault)
  - Note: Z3, Z4, Z5 for NSX400/630 only.
- ENCT: external neutral current transformer:
  - shielded cable with 1 twisted pair (T1, T2)
  - shielding earthed at one end only (CT end).
  - Connection L = 30 cm max.
  - cable size 0.4 to 1.5 mm²
- ENVT: external neutral voltage tap for connection to the neutral via a 3P circuit breaker.

Remote operation

- MN: undervoltage release
- MX: shunt release

Motor mechanism (MT)

- A4: opening order
- A2: closing order
- B4, A1: motor mechanism power supply
- L1: manual position (manu)
- B2: SDE interlocking (mandatory for automatic or remote recharging)
- BPO: opening pushbutton
- BPF: closing pushbutton

Communicating motor mechanism (MTc)

- B4, A1: motor mechanism power supply
- BSCM: breaker status and control module

Indication contacts

- Terminals shown in red O / O must be connected by the customer.
- Colour code for auxiliary wiring:
  - RD: red
  - WH: white
  - YE: yellow
  - BK: black
  - GN: green
  - VT: violet
  - GY: grey
  - OR: orange
  - BL: blue

Connection L = 30 cm max.
- maximum length of 10 metres
- cable size 0.4 to 1.5 mm²
- recommended cable: Belden 8441 or equivalent.
The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position.

After tripping initiated by the "Push to trip" button or by the undervoltage (MN) release or the shunt (MX) release, device reset can be automatic, remote or manual.

Following tripping due to an electrical fault (with an SDE contact), reset must be carried out manually.

Symbols

- **Q**: circuit breaker
- **A4**: opening order
- **A2**: closing order
- **B4, A1**: motor mechanism power supply
- **L1**: manual position (manu)
- **B2**: SDE interlocking (mandatory for correct operation)
- **BPO**: opening pushbutton
- **BPF**: closing pushbutton
- **SDE**: fault-trip indication contact (short-circuit, overload, ground fault, earth leakage)
Communicating motor mechanism (MTc)

Schematic representation of the communicating motor mechanism (MT).

RSU screen for the communicating motor mechanism (MTc)

Single-line diagram of communicating motor mechanism
Opening, closing and reset orders are transmitted via the communication network. The "Enable automatic reset" and "Enable reset even if SDE" parameters must be set using the RSU software via the screen by clicking the blue text.

"Auto/manu" is a switch on the front of the motor mechanism.

Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q:</td>
<td>circuit breaker</td>
</tr>
<tr>
<td>B4, A1:</td>
<td>motor mechanism power supply</td>
</tr>
<tr>
<td>BSCM:</td>
<td>breaker status and control module</td>
</tr>
</tbody>
</table>

Terminals shown in red (Q) must be connected by the customer.
The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position.

| Symbols          | SD2                      | SD4                      
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SD1, SD3</td>
<td>SDx-module power supply</td>
<td></td>
</tr>
<tr>
<td>SD2</td>
<td>output 1 (80 mA max.)</td>
<td></td>
</tr>
<tr>
<td>SD4</td>
<td>output 2 (80 mA max.)</td>
<td></td>
</tr>
<tr>
<td>Micrologic 2</td>
<td>SDT</td>
<td>-</td>
</tr>
<tr>
<td>Micrologic 5</td>
<td>SDT or output 1 PAL Ir or output 2</td>
<td></td>
</tr>
<tr>
<td>Micrologic 6</td>
<td>SDT or output 1 SDG or output 2</td>
<td></td>
</tr>
</tbody>
</table>

Terminals shown in red must be connected by the customer.

### Operation

- **I**: charge current
- **PAL Ir**: thermal overload pre-alarm
- **SDG**: ground-fault signal
- **SDT**: thermal-fault signal
- **Q**: circuit breaker

The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position.
The diagram is shown with circuits de-energised, all devices open, connected and charged and relays in normal position.

Connection

SDTAM module with Micrologic M

Symbols

<table>
<thead>
<tr>
<th></th>
<th>SD2</th>
<th>SD4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD1, SD3:</td>
<td>SDTAM-module power supply</td>
<td></td>
</tr>
<tr>
<td>SD2:</td>
<td>thermal-fault signal output</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(80 mA max.)</td>
<td></td>
</tr>
<tr>
<td>SD4:</td>
<td>contactor-control output</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(80 mA max.)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>SD2</th>
<th>SD4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micrologic 2-M</td>
<td>SDT</td>
<td>KA1</td>
</tr>
<tr>
<td>Micrologic 6 E-M</td>
<td>SDT</td>
<td>KA1</td>
</tr>
</tbody>
</table>

Terminals shown in red O must be connected by the customer.

Operation

I: charge current
SDT: thermal-fault signal
KA1: auxiliary relay (e.g. RBN or RTBT relay)
KM1: motor contactor
Q: circuit breaker

Closing order
Opening order

Class (Ir) at 7.2 Ir

SD1 = SD4

400 ms before circuit-breaker tripping order
Manual or automatic reset

~ (+) 24 to 415 V

Manual reset

Auto reset (minutes)

Closing order
Opening order