Power generation and distribution operators across the world rely on our relays
Auxiliary · Tripping · Supervision · Pilot wire

D platform

The unique plug-in D-relay concept is specifically designed for heavy duty applications in power-utilities, petro chemical industries and mining.

High DC breaking capacity and inductive load switching offer long electrical life and low life cycle costs. The Solve-All relay application concept offers ultimate flexibility to design and supply tailor made D-relays. Today D-relays are used in its millions across the world.

Delta platform

The Delta platform of electro-mechanical relays has been designed for high voltage protection and control applications where a low contact count is required.

High performance and reliability remains paramount while lead times and panel space have been reduced. A wide range of operating voltage functions and options are available. The Delta relays are packaged in a compact and cost effective case suitable for flush panel or rack mounting.

Alpha platform

Electro-mechanical relays specifically designed for high voltage protection and control applications. Multi-contact high-speed trip relays ensure fast operation of less than 8 ms with unique patented design. Topology ensures minimal contact bounce. The diversity of configurations and options makes the Alpha platform suitable for the most demanding customer.

The Alpha case system is available for flush panel and 19” rack mounting.

Mors Smitt is part of Wabtec Corporation, the NYSE stock exchange listed, global supplier of highly engineered components and solutions for rail and selected industrial markets. Operations in 17 countries and world wide sales in over 100 countries. Wabtec Corporation holds over 1,200 patents and has world class internal processes based on lean manufacturing and continuous improvement principles (Wabtec Performance System). Within the Wabtec group Mors Smitt has its own name & identity and is focused on satisfying the needs of customers in the power grid, industry and installation sectors.

January 2017

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D-platform

Features

- Mechanical trip indicator
- Bistable / latching models
- Fast switching up to < 7 ms
- High DC breaking capacity
- Low power consumption
- Optional time functions

Technical specification

<table>
<thead>
<tr>
<th>Type*</th>
<th>Contacts</th>
<th>Reset / type</th>
<th>Voltage range</th>
<th>Operating burden</th>
<th>Transient overvoltage</th>
<th>Operating voltage</th>
<th>Operating time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auxiliary relays</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>4 C/O</td>
<td>Self reset</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>Self reset relays &lt; 3 W</td>
<td>5 kV (1.2/50 µs)</td>
<td>80%...110% AC/DC</td>
<td>&lt; 20 ms DC</td>
</tr>
<tr>
<td>D8</td>
<td>8 C/O</td>
<td>Self reset</td>
<td>110, 240 VAC</td>
<td>Reset coils = 0 W</td>
<td>5 ms AC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**High DC breaking capacity relays (10 A, DC1)**

<table>
<thead>
<tr>
<th>Type*</th>
<th>Contacts</th>
<th>Reset / type</th>
<th>Voltage range</th>
<th>Operating burden</th>
<th>Transient overvoltage</th>
<th>Operating voltage</th>
<th>Operating time</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-YB</td>
<td>2 DM/DB</td>
<td>Self reset</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>Self reset relays &lt; 3 W</td>
<td>5 kV (1.2/50 µs)</td>
<td>80%...110% AC/DC</td>
<td>&lt; 20 ms DC</td>
</tr>
<tr>
<td>D-YBX5</td>
<td>1 DM/DB</td>
<td>Self reset</td>
<td>110, 240 VAC</td>
<td>Reset coils = 0 W</td>
<td>5 ms AC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**High speed tripping relays**

<table>
<thead>
<tr>
<th>Type*</th>
<th>Contacts</th>
<th>Reset / type</th>
<th>Voltage range</th>
<th>Operating burden</th>
<th>Transient overvoltage</th>
<th>Operating voltage</th>
<th>Operating time</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-R4</td>
<td>4 C/O</td>
<td>Self reset</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>During pull-in 25 W</td>
<td>5 kV (1.2/50 µs)</td>
<td>80%...110% DC</td>
<td>&lt; 7 ms DC</td>
</tr>
<tr>
<td>D-RBA</td>
<td>4 C/O</td>
<td>Self reset</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>Mechanical flag</td>
<td>5 kV (1.2/50 µs)</td>
<td>80%...110% DC</td>
<td></td>
</tr>
</tbody>
</table>

**Bistable / latching remote relays**

<table>
<thead>
<tr>
<th>Type*</th>
<th>Contacts</th>
<th>Reset / type</th>
<th>Voltage range</th>
<th>Operating burden</th>
<th>Transient overvoltage</th>
<th>Operating voltage</th>
<th>Operating time</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD</td>
<td>3 C/O</td>
<td>Electrical reset</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>During pull-in 1.7 W</td>
<td>5 kV (1.2/50 µs)</td>
<td>80%...110% AC/DC</td>
<td></td>
</tr>
<tr>
<td>KDN</td>
<td>8 C/O</td>
<td>Electrical reset</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>Magnetic flag</td>
<td>5 kV (1.2/50 µs)</td>
<td>80%...110% DC</td>
<td></td>
</tr>
</tbody>
</table>

* See our website for more types and voltages

Options*

<table>
<thead>
<tr>
<th>Function</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Mechanical hand reset flag</td>
</tr>
<tr>
<td>B</td>
<td>Heavy duty contacts, magnetic arc blow-out 7 A, DC1 @ 110 V</td>
</tr>
<tr>
<td>H</td>
<td>High burden 10 µF, 1.5 U</td>
</tr>
<tr>
<td>S</td>
<td>Mechanical following flag</td>
</tr>
<tr>
<td>T</td>
<td>Test button</td>
</tr>
<tr>
<td>V</td>
<td>Wide operating and temperature range 70% ...125% Unom / -25°C...+70°C</td>
</tr>
</tbody>
</table>

* Not all options can be combined, see our website for more details and options

**Breaking capacity Relays (Resistive load DC1)**

**Breaking capacity Relays (Inductive load L/R = 40ms)**
Auxiliary, trip & remote relays

Available types

D and D-B  High performance auxiliary relays

- Plug-in relay
- High reliable contacts
- High operate speed and low bounce
- 4 or 8 heavy duty contacts
- Self-reset
- Optional electromechanical flag indication
- Standard with LED and back EMF-diode
- Wide range of options

<table>
<thead>
<tr>
<th>Available types</th>
<th>D or D-B</th>
<th>Single element 4 contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>D8</td>
<td>Dual element 8 contacts</td>
<td></td>
</tr>
</tbody>
</table>

D-R4  High speed tripping relays

- Plug-in relay
- High reliable contacts
- Extreme high operate speed < 7 ms and low bounce
- 4 heavy duty contacts
- Self-reset
- Wide range of operating voltages
- Wide range of options

<table>
<thead>
<tr>
<th>Available types</th>
<th>D-R4</th>
<th>Single element 4 contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>D8-RA</td>
<td>Dual element 7 contacts</td>
<td></td>
</tr>
</tbody>
</table>

BD and KDN  High performance latching remote relays

- Plug-in bistable / latching relay
- High reliable electrical reset contacts
- High operate speed and low bounce
- 4 or 8 heavy duty contacts
- Electromechanical flag indication
- Wide range of operating voltages
- Wide range of options

<table>
<thead>
<tr>
<th>Available types</th>
<th>BD</th>
<th>Single element 4 contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>KDN</td>
<td>Dual element 8 contacts</td>
<td></td>
</tr>
</tbody>
</table>

Sockets for D-relays

V23  V29  V33  V93  V99
35 mm rail mounting 35 mm rail mounting Flush mounting 35 mm rail mounting 35 mm rail mounting
Screw terminals Spring clamp terminals Spring clamp terminals Screw terminals Spring clamp terminals

19” relay rack for D-relays

The 19” relay rack is equipped with 8x V33 sockets to carry any combination of relays. The racks are available in black mat finish or RAL 7035 grey.

* See our website for more types
D-platform

Features

- Up to 4 heavy duty C/O contacts
- 3U high 2U wide rack or flush mounting
- Plug-in terminal block
- M4 screw terminals
- Wide range of operating voltages
- Optional gold contacts
- Standard LED coil pickup indication

Technical specification

<table>
<thead>
<tr>
<th>Type*</th>
<th>Contacts</th>
<th>Reset / type</th>
<th>Voltage range</th>
<th>Operating burden</th>
<th>Transient overvoltage</th>
<th>Operating voltage</th>
<th>Operating time</th>
</tr>
</thead>
</table>
| ARD4  | 4        | Self, hand, electrical| 30/32, 48, 110, 125, 220, 240, 250 VDC 110, 240 VAC | Self reset relays < 3 W  
Reset coils < 3 W | 5 kV  
70 %...120 % DC  
80 %...110 % AC | < 20 ms |
| TRD4  | 4        | Self, hand, electrical| 30/32, 48, 110, 125, 220, 240, 250 VDC | Self reset relays < 25 W  
Reset coil < 10 W | 5 kV  
65 %...120 % DC | < 10 ms |
| XRD4-4| 4        | Trip supply           | 30/32, 48, 110, 125, 220, 240, 250 VDC | Self reset relays < 5 W | 5 kV  
70 %...120 % DC | < 400 ms |
| XRD4-6| 4        | Trip circuit          | Trip circuit                   |                  |           |                  |               |

* See our website for more types

Mounting options

Rack mounting

Panel mounting
Available types

**TRD4**  High speed trip relays
- < 10 ms operate time
- High burden trip relay
- 4 C/O contacts
- Standard magnetic arc blow out
- Self-reset, hand reset and hand/electrical reset versions
- Hand reset mechanical flag
- Flush panel or rack mounting
- Wide range of operating voltages

**ARD4**  High performance auxiliary relays
- Self-reset and latching versions
- Low burden auxiliary relay
- 4 C/O contacts
- Standard magnetic arc blow out
- Hand reset flag
- Flush panel or rack mounting
- Wide range of operating voltages

**XRD4**  Supervision relays
- Trip supply & trip circuit supervision models
- Low burden supervision relays
- 3 C/O or 4 C/O contacts
- Delay on drop-off
- Hand reset flag drops to indicate alarm condition
- Flush panel or rack mounting
- Wide range of operating voltages

**Delta Flex**  Modular auxiliary relay system
- 2U high 19-inch rack or flush mounting
- Wide range of auxiliary relay functions
- Specify components or complete sub-rack system
- M4 screw terminals suitable for ring lugs
- Integrated front panel covers
- Custom panel labelling
Alpha platform

Features

- Rugged modular construction
- Double action contacts for high operating speed and low bounce
- Electrical reset interlock
- Electromechanical flag indication
- Rack of flush mounting
- M4 screw terminals
- Optional gold plated contacts for low current

Technical specification

<table>
<thead>
<tr>
<th>Type*</th>
<th>Contacts / terminals</th>
<th>Reset / type</th>
<th>Voltage range</th>
<th>Operating burden</th>
<th>Transient overvoltage</th>
<th>Operating voltage</th>
<th>Operating time</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR - High performance auxiliary relays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AR5</td>
<td></td>
<td>5</td>
<td>Self, hand, electrical</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC, 110, 240 VAC</td>
<td>Self reset relays &lt; 5 W</td>
<td>70 %...120 % DC</td>
<td>5 kV</td>
</tr>
<tr>
<td>AR12</td>
<td></td>
<td>12</td>
<td></td>
<td></td>
<td>Latching relays = 0.4 W</td>
<td>80 %...110 % AC</td>
<td></td>
</tr>
<tr>
<td>AR25</td>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td>Reset coils = 0 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR - High speed tripping relays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TR5</td>
<td></td>
<td>5</td>
<td>Self, hand, electrical</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>Self reset relays &lt; 5 W</td>
<td>50 %...120 % DC</td>
<td>5 kV</td>
</tr>
<tr>
<td>TR12</td>
<td></td>
<td>12</td>
<td></td>
<td></td>
<td>Latching relays = 0.4 W</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XR - Supervision relays</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XR5-00-1</td>
<td></td>
<td>5</td>
<td>Trip relay coil</td>
<td>30/32, 48, 110, 125, 220, 240, 250 VDC</td>
<td>Depending on the CB coil resistance</td>
<td>70 %...120 % DC</td>
<td>5 kV</td>
</tr>
<tr>
<td>XR5-00-4</td>
<td></td>
<td>4</td>
<td>Trip supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XR5-00-6</td>
<td></td>
<td>6</td>
<td>Trip circuit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4M200 - Test block systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4M200</td>
<td></td>
<td>14</td>
<td>Test block</td>
<td>Max. 660 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4M220</td>
<td></td>
<td>1</td>
<td>Test plug</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See our website for more types

Contact rating

- Make and carry continuously: 1250 VA AC, limited at both 660 V and 8 A
- Make and carry for 3 seconds: 7500 VA AC, limited at both 660 V and 30 A
- AC break capacity: 1250 VA AC, limited at both 2500 V and 8 A
- DC break capacity: 1250 W DC resistive
- Contact operational life: > 10,000 operations
Available types*

**TR  High speed tripping relays**
- Electrical reset interlock
- User selectable low or high burden
- High reliable double action contacts
- High operate speed and low bounce
- 5 or 12 heavy duty contacts
- Self-reset, hand reset or hand/electrical reset
- Electromechanical flag indication
- Wide range of operation voltages

<table>
<thead>
<tr>
<th>Available types</th>
<th>TR5</th>
<th>TR12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High or low burden 5 contacts</td>
<td>High or low burden 12 contacts</td>
</tr>
</tbody>
</table>

**AR  High performance auxiliary relays**
- Low burden auxiliary relay
- High reliability double action contacts
- High operate speed and low bounce
- 5, 10 or 12 heavy duty contacts
- Self-reset, hand reset or hand/electrical reset
- Electromechanical flag indication
- Wide range of operation voltages

<table>
<thead>
<tr>
<th>Available types</th>
<th>AR5</th>
<th>AR12</th>
<th>AR25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single element 5 contacts</td>
<td>Single element 12 contacts</td>
<td>Dual element 2 x 5 contacts</td>
</tr>
</tbody>
</table>

**XR  Supervision relays**
- Supervision of CB trip circuits, supply & CB coil integrity
- No external resistors required
- Fixed time delay
- Low AC burden
- High operate speed and low bounce
- Self-reset, hand reset or hand/electrical reset
- Electromechanical flag indication
- Wide range of operating voltages

<table>
<thead>
<tr>
<th>Available types</th>
<th>XR5-1</th>
<th>XR5-4</th>
<th>XR5-6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trip relay coil supervision</td>
<td>Trip supply supervision</td>
<td>Single pole, trip circuit supervision</td>
</tr>
</tbody>
</table>

**4M200  Test block systems**
- Finger safe test sockets
- 14 independent test groups
- Automatic CT shorting inside test block
- Staged isolation
- One test plug fits all 4M200 variants
- Compatible with industry standard test plugs
- Optional test plug to block polarizing system
- Identification of CT circuits on front panel

<table>
<thead>
<tr>
<th>Available types</th>
<th>4M200</th>
<th>4M220</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test block</td>
<td>Test plug</td>
</tr>
</tbody>
</table>

* See our website for more types
Mors Smitt is part of Wabtec Corporation. A global provider of value-added, technology-based products and services for railway, transit, freight and other industrial markets, with facilities worldwide.

**Business activities**
- Railway technology
- Industrial technology

**Core competence**
Protection and Control of electrical circuits and systems in mission-critical applications serving rail car builders, rail operators, contractors and power utilities worldwide.

**Mission statement**
To be preferred a supplier by offering safe, reliable and cost-effective solutions with focus on quality and operational excellence exceeding customer expectations.

**Vision**
World leader in relay technology in railway and power markets. World leader in train borne energy measuring systems.
Our sectors

**Railway rolling stock components**
Relays, relay life services, miniature circuit breakers, transducers.

**Railway rolling stock systems**
Engineered solutions, energy measurement, power control, services.

**Railway signalling & train protection**
Signalling relays, train protection, systems, services.

**Power utility**
Relays, protection relays, test block systems, arc flash monitoring.

**Heavy industry, oil & gas**
Relays, engineered solutions, services.

**Maritime instruments**
Bridge(-wing) & ship control room instrumentation.

**Portable instruments**
Test & measuring equipment, calibration services.

Legacy brands

**NIEAF SMITT**

**MORS SMITT**

**Faiveley**

Employees

460 (50 engineering, 35 sales & support)

Quality standards

IRIS, ISO 9001, ISO 14001

Global reach

5 manufacturing sites
6 sales & support offices

History


Mors (FR) Smitt (NL) Mors Smitt merger Mors Smitt Hong Kong Mors Smitt China Mors Smitt UK Wabtec Corporation RMS Mors Smitt Australia Faiveley Transport