Product Range Catalogue 2009
Rapid Link Switching and Installation System

EATON
Powering Business Worldwide

Moeller
An Eaton Brand
# Contents

**Rapid Link Switching and Installation System**

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The Rapid Link system is designed for use in small and large plants for materials handling applications, particularly for distribution and production logistics as well as baggage handling systems in airports. Rapid Link offers all the functions required in IP65 for remotely controlling, switching and protecting spatially distributed drives via PROFIBUS-DP and AS-Interface networks.

Rapid Link is quick to install and easy to commission – around 50 drives per day are normally possible. The modular Rapid Link system comprises different functionally tested and prefabricated units.

System features

- Fast installation and simple commissioning
- Mounting near the drive
- Manual device operation in the field
- Diagnostics and status messages in the field
- Phase reversal switch
- Safe isolation between power and data bus
- EMC design
- Compatible with all drives and motors
- Few spare parts

System overview

Interface control unit

- Interface to open field bus.
- Fast data transfer of up to 12 MBaud as PROFIBUS-DP Slave.
- Head end for up to 62 slaves, can be ideally combined with the commonly available sensors and actuators of different manufacturers.
- IP65 plug connector for rapid connection and exchange.

Disconnect control unit

- Isolation of the power line.
- Lockable with 3 padlocks.
- Protection against short-circuit and overload.
- Small tripping currents enable long cable lengths.
- Remote status display for rapid diagnostics in the field.

Motor control unit

- 3-phase electronic motor protection with range from 0.09 to 3 kW (400 V) reduces the number of variants required.
- Integrated thermistor monitoring for full motor protection.
- Available as DOL or reversing starter.
- Manual operation enables commissioning without PLC.
- Two integrated sensor inputs reduce costs.
- Interlocked manual mode ensures safety.
- IP65 plug connector for rapid connection and exchange.

Speed control unit

- Actuation of motors up to 2.2 kW at 400 V with up to 4 fixed speeds and 2 operating directions.
- The soft start reduces mechanical wear and offers the maximum torque.
- Speeds, acceleration and deceleration times can be set as required and are infinitely variable.
- Manual operation and the speed potentiometer enable commissioning to be carried out without a PLC.
- Sensorless vector control with high starting torque (RA-SPV).
- Integrated brake chopper with braking resistance for dynamic braking (RA-SPV).
- Thermistor protection, overload and earth fault monitoring ensure safety.
- IP65 plug connector for rapid connection and exchange.

Notes

The Rapid Link system must not be commissioned without referring to the manual AWB2190-1430.

This manual is available online at ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/h1430gb.pdf

Product information

Manuals

- Rapid Link Switching and Installation System → AWB2190-1430GB
- DF5 Frequency Inverters → AWB8230-1412GB
- DF5 Frequency Inverter Training Guide → AWB8230-1447GB
- OVS frequency inverters → AWB8230-1414GB
- Vector Frequency Inverter Training Guide DVS → AWB8230-1448GB
- AS-Interface/PROFIBUS Gateways → AWB2700-1409GB
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22. External auxiliary voltage 24 V DC
Motor Starters

External I/Os via M12 socket Number | Brake control voltage V AC | Part no. Article no. | Price see price list | Std. pack
--- | --- | --- | --- | ---

**Motor control unit**

- Motor starters with electronic motor protection from 0.09 to 3 kW/400 V AC
- Integrated PTC thermistor monitoring (Thermoclick) with safe isolation.
- 2 external inputs up to 150 mA via M12 socket with quick stop and interlocked manual mode.
- All terminals pluggable.
- Connection via adapter cable to round cable or flexible busbar junction.
- 24 V DC auxiliary circuit only required for devices with external 24 V output.
- Optionally one external 24 V output via M12 socket.
- Actuation of brake motors.
- AS-Interface Slave Spec. 2.1 for 62 stations.
- Diagnostics and reset on device and via AS-Interface.

**Operation without auxiliary circuit**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Part no. Article no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOL starter with keyswitch AUTO - OFF/RESET - MANUAL</td>
<td>RA-MO-D/C3A 113881</td>
<td>See price list</td>
<td>1 off</td>
</tr>
<tr>
<td>DOL starter without manual operation and without thermistor monitoring</td>
<td>RA-MOL-D/C3A 116856</td>
<td>See price list</td>
<td></td>
</tr>
<tr>
<td>Reversing starter with keyswitch AUTO - OFF/RESET - MANUAL and selector switch REV - OFF - FWD</td>
<td>RA-MO-W/C3A 113883</td>
<td>See price list</td>
<td></td>
</tr>
<tr>
<td>Reversing starter without manual operation and without thermistor monitoring</td>
<td>RA-MOL-W/C3A 116857</td>
<td>See price list</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

- Equipment supplied:
  - Motor feeder socket to DESINA Standard
  - With AS-Interface/M12 plug on the unit
  - With power plug on the unit
## Rapid Link switching and installation system

### Motor Starters

<table>
<thead>
<tr>
<th>External I/Os via M12 socket Number</th>
<th>Brake control voltage V AC</th>
<th>Part no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation without 24 V DC auxiliary circuit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOL starter with keyswitch AUTO - OFF/RESET - MANUAL</td>
<td>2/1</td>
<td>400</td>
<td>RA-MO-DA/C3A</td>
<td>113882</td>
</tr>
<tr>
<td>Reversing starter with keyswitch AUTO - OFF/RESET - MANUAL and selector switch REV - OFF - FWD</td>
<td>2/1</td>
<td>400</td>
<td>RA-MO-WA/C3A</td>
<td>113884</td>
</tr>
<tr>
<td>DOL starter with keyswitch AUTO - OFF/RESET - MANUAL</td>
<td>2/-</td>
<td>400</td>
<td>RA-MO24V-D/C3A</td>
<td>113885</td>
</tr>
<tr>
<td>Reversing starter with keyswitch AUTO - OFF/RESET - MANUAL and selector switch REV - OFF - FWD</td>
<td>2/-</td>
<td>400</td>
<td>RA-MO24V-W/C3A</td>
<td>113886</td>
</tr>
</tbody>
</table>

### Notes

- Equipment supplied:
  - Motor feeder socket to DESINA Standard
  - With AS-Interface/M12 plug on the unit
  - With power plug on the unit
Rapid Link switching and installation system

**Speed Control Units**

<table>
<thead>
<tr>
<th>Max. rated operational current ($I_p$)</th>
<th>Assigned motor rating (kW)</th>
<th>Brake control voltage (V AC)</th>
<th>UL/CSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
</tbody>
</table>

**Part no.**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Article no.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA-SP2-342-075/C3A</td>
<td>290405</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-343-075/C3A</td>
<td>290406</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-343-(230)-075/C3A</td>
<td>290407</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-342-1K1/C3A</td>
<td>290408</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-343-1K1/C3A</td>
<td>290409</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-343-(230)-1K1/C3A</td>
<td>290410</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-342-2K2/C3A</td>
<td>290411</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-343-2K2/C3A</td>
<td>290412</td>
<td></td>
</tr>
<tr>
<td>RA-SP2-343-(230)-2K2/C3A</td>
<td>290413</td>
<td></td>
</tr>
</tbody>
</table>

**Sensorless vector control**

- Sensorless vector control with high starting torque
- Integrated brake chopper with braking resistance for dynamic braking
- 2 external inputs up to 150 mA via M12 sockets
- With quick stop and interlocked manual mode
- With 2 additional inputs for creep speed
- Power supply for the sensor inputs: total 150 mA
- Diagnostics and reset on device and via AS-Interface
- Selectable: with quick stop on failure of the external 24 V (Stop category 1 to EN60204-1)

<table>
<thead>
<tr>
<th>Max. rated operational current ($I_p$)</th>
<th>Assigned motor rating (kW)</th>
<th>Brake control voltage (V AC)</th>
<th>UL/CSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>230</td>
<td>230</td>
<td></td>
</tr>
</tbody>
</table>

**Part no.**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Article no.</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA-SPV-HE-343-075/C3A</td>
<td>105014</td>
<td>New</td>
</tr>
<tr>
<td>RA-SPV-HE-343-(230)-075/C3A</td>
<td>105015</td>
<td>New</td>
</tr>
<tr>
<td>RA-SPV-HE-343-1K1/C3A</td>
<td>105015</td>
<td>New</td>
</tr>
<tr>
<td>RA-SPV-HE-343-(230)-1K1/C3A</td>
<td>106497</td>
<td>New</td>
</tr>
<tr>
<td>RA-SPV-HE-343-2K2/C3A</td>
<td>290345</td>
<td>New</td>
</tr>
<tr>
<td>RA-SPV-HE-343-(230)-2K2/C3A</td>
<td>290341</td>
<td>New</td>
</tr>
</tbody>
</table>

**Notes**

- Equipment supplied:
  - Motor feeder socket to DESINA Standard
  - With AS-Interface/M 12 plug on the unit
  - With power plug on the unit

- 2 external inputs up to 70 mA via M12 sockets
- Diagnostics and reset on the device
- 2 external inputs up to 70 mA via M12 sockets
- Diagnostics and reset on the device and via AS-Interface
- Selectable: with quick stop on failure of the external 24 V (Stop category 1 to EN60204-1)
## Disconnect control unit

The disconnect control unit is the feeder for the decentralised power supply.
- 24 V DC control circuit
- Main switch with lockable rotary handle
- Group protective device up to 25 A/400 V AC
- AS-Interface Slave Spec. 2.1 for 31 stations

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Article no.</th>
<th>Std. pack</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA-DI2-PKZ2</td>
<td>254676</td>
<td>1 off</td>
<td></td>
</tr>
</tbody>
</table>

### Accessories
- Supplied:
  - With AS-Interface supply cable, approx. 0.5 m incl. M12 plug
  - M20/M25 knockout plate for glands
  - 4 pin-end connectors for connecting 4 mm² and 6 mm² cross-sections to NHI11 standard auxiliary contact

## Interface control unit

The interface control unit is supplied via an external 30 V DC AS-Interface power supply unit. The integrated data decoupling allows several interface control units to be supplied with only one power supply unit. The power supply unit and the PROFIBUS-DP cabling must be ordered separately (e.g. from German suppliers Turck).
- Interface to the open fieldbus incl. power extender
- Up to 62 slaves per AS-Interface line, up to 2.8 A
- Integrated data decoupling with power extender

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Article no.</th>
<th>Std. pack</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA-IN2.1-DP</td>
<td>254672</td>
<td>1 off</td>
<td></td>
</tr>
</tbody>
</table>

### Accessories
- Supplied:
  - With AS-Interface supply cable, approx. 0.5 m incl. M12 plug
  - M12 socket for PROFIBUS-DP, B-coded
  - Cable socket to DIN 43650-A/ISO 4400 for 30 V DC supply, 2 poles + earth, for 2.5 mm² round cables, external diameter 6 – 9 mm.
## Accessories

### RA-IN accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>For use with</th>
<th>Part no. Article no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminating resistor M12</td>
<td>For PROFIBUS-DP, B-coded</td>
<td>RA-IN-XT-DP</td>
<td>RA-IN-XTR-DP</td>
<td>1 off</td>
</tr>
<tr>
<td>M12 plug connector for assembly by user</td>
<td>For PROFIBUS-DP, B-coded, straight coupling</td>
<td>RA-IN-XT-DP</td>
<td>RA-IN-XF-DP</td>
<td>1 off</td>
</tr>
<tr>
<td>M12 plug connector for assembly by user</td>
<td>For PROFIBUS-DP, B-coded, straight plug</td>
<td>RA-IN-XT-DP</td>
<td>RA-IN-XM-DP</td>
<td>1 off</td>
</tr>
<tr>
<td>M12 T connector</td>
<td>For PROFIBUS-DP, B-coded</td>
<td>RA-IN2.1-DP</td>
<td>RA-IN-XM-DP</td>
<td>1 off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RA-IN-XD-DP</td>
<td>RA-IN-XF-DP</td>
<td>1 off</td>
</tr>
</tbody>
</table>

### RA-DI accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>For use with</th>
<th>Part no. Article no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable gland (1)</td>
<td>For cables with outer diameters of 6 – 13 mm</td>
<td>H05VV-F 4 x 2,5/3 x 4 mm²</td>
<td>V-M20 206910</td>
<td>20 off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NYM 5 x 1,25/2 x 5 mm²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>For cables with outer diameter of 9 – 17 mm</td>
<td>H05VV-F 5 x 2,5/5 x 4 mm²</td>
<td>V-M25 206911</td>
<td>20 off</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NYM 5 x 2,5/5 x 6 mm²</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### RA-MO accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>For use with</th>
<th>Part no. Article no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power adapter cable to flexible busbar</td>
<td>1.5 m, halogen free, 5 × 1.5 mm²</td>
<td>RA-MO.../C3A RA-SP.../C3A RA-C1-PLF</td>
<td>RA-C3/C1-1,5HF 290210</td>
<td>1 off</td>
</tr>
<tr>
<td>Power adapter cable to round cable</td>
<td>1.5 m, halogen free, 5 × 1.5 mm²</td>
<td>RA-MO.../C3A RA-SP.../C3A RA-C2-S1-4</td>
<td>RA-C3/C2-1,5HF 290211</td>
<td>1 off</td>
</tr>
<tr>
<td>Power plug (2)</td>
<td>For assembly by user, crimp contacts 5 × 1.5 mm², for 6 – 12 mm external cable diameter</td>
<td>RA-MO.../C3A RA-SP.../C3A</td>
<td>RA-C3-PLF 290423</td>
<td>1 off</td>
</tr>
<tr>
<td>Motor cable</td>
<td>2 m, halogen free, 8 × 1.5 mm²</td>
<td>RA-MO</td>
<td>SET-M3/2-HF 230914</td>
<td>1 off</td>
</tr>
<tr>
<td>Motor cable</td>
<td>3 m, halogen free, 8 × 1.5 mm²</td>
<td>RA-MO</td>
<td>SET-M3/3HF 272198</td>
<td>1 off</td>
</tr>
<tr>
<td>Motor cable</td>
<td>5 m, halogen free, 8 × 1.5 mm²</td>
<td>RA-MO</td>
<td>SET-M3/5-HF 265556</td>
<td>1 off</td>
</tr>
<tr>
<td>Motor cable</td>
<td>10 m, halogen free, 8 × 1.5 mm²</td>
<td>RA-MO</td>
<td>SET-M3/10-HF 272257</td>
<td>1 off</td>
</tr>
<tr>
<td>Motor feeder plug (2)</td>
<td>For assembly by user, crimp contacts 8 × 1.5 mm², for 9 – 13 mm external cable diameter</td>
<td>RA-MO</td>
<td>SET-M3-A 231640</td>
<td>1 off</td>
</tr>
<tr>
<td>Lock shackle (3)</td>
<td>For motor cables and motor plugs; disconnection device to EN 60204-1</td>
<td>RA-MO RA-SP</td>
<td>SET-M-LOCK 272085</td>
<td>1 off</td>
</tr>
</tbody>
</table>

**Notes**

1) Metric to EN 50262
2) Minimum order quantity: 10 off
3) Tools required: Crimping tool for HAN E contacts from Harting
   - For padlocks with hasp thickness up to 8 mm
## Accessories

### RA-SP accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>Article no.</th>
<th>Price</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power adapter cable to flexible busbar</td>
<td>RA-MO.../C3A RA-SP.../C3A RA-C1-PLF</td>
<td>RA-C3/C1-1,5HF</td>
<td>290210</td>
</tr>
<tr>
<td>Power adapter cable to round cable</td>
<td>RA-MO.../C3A RA-SP.../C3A RA-C2-1,5HF</td>
<td>RA-C3/C2-1,5HF</td>
<td>290211</td>
</tr>
<tr>
<td>Power plug(^1)</td>
<td>RA-MO.../C3A RA-SP.../C3A RA-C3-PLF</td>
<td>RA-C3-PLF</td>
<td>290423</td>
</tr>
<tr>
<td>Motor cable</td>
<td>SET-M4/2-HF</td>
<td>254485</td>
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</tr>
<tr>
<td>Motor cable</td>
<td>SET-M4/3HF</td>
<td>272199</td>
<td></td>
</tr>
<tr>
<td>Motor cable</td>
<td>SET-M4/5-HF</td>
<td>265622</td>
<td></td>
</tr>
<tr>
<td>Motor cable</td>
<td>SET-M4/10-HF</td>
<td>276251</td>
<td></td>
</tr>
<tr>
<td>Motor feeder plug(^1)</td>
<td>SET-M4-A</td>
<td>254686</td>
<td></td>
</tr>
<tr>
<td>Lock shackle(^2)</td>
<td>SET-M-LOCK</td>
<td>272085</td>
<td></td>
</tr>
<tr>
<td>LCD keypad with non-volatile memory</td>
<td>DEX-KEY-10</td>
<td>231421</td>
<td></td>
</tr>
<tr>
<td>Connection cable (1.0 m) with RJ-45 plugs</td>
<td>DEX-CBL-1M0-ICS</td>
<td>DEX-KEY-10</td>
<td>232375</td>
</tr>
<tr>
<td>Connection cable (3.0 m) with RJ-45 plugs</td>
<td>DEX-CBL-3M0-ICS</td>
<td>DEX-KEY-10</td>
<td>232376</td>
</tr>
<tr>
<td>Interface converter</td>
<td>DEX-CBL-2M0-USB</td>
<td>DEX-KEY-10</td>
<td>119721</td>
</tr>
</tbody>
</table>

**Notes**

- \(^1\) Minimum order quantity: 10 off
- Tools required: Crimping tool for HAN E contacts from Harting
- \(^2\) For padlocks with hasp thickness up to 8 mm

---

**Rapid Link switching and installation system**

<table>
<thead>
<tr>
<th>For use with</th>
<th>Part no.</th>
<th>Price</th>
<th>Std. pack</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 off</td>
</tr>
</tbody>
</table>
## Accessories

Remote power supply via flexible busbar RA-C1

<table>
<thead>
<tr>
<th>For use with</th>
<th>Part no. Article no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible busbar</td>
<td>RA-C1-7X4HF</td>
<td>230860</td>
<td>100 runn.</td>
<td>Paint film contaminant/silicon-free</td>
</tr>
<tr>
<td>Flexible busbar junction for 400 V AC and 24 V DC</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-PLF</td>
<td>5 off</td>
<td>--</td>
</tr>
<tr>
<td>Protective cover for flexible busbar junction</td>
<td>RA-C1-PLF</td>
<td>RA-C1-COV</td>
<td>10 off</td>
<td>--</td>
</tr>
<tr>
<td>Plug insert with hood</td>
<td>RA-C1-PLF</td>
<td>RA-C1-VP-PLM</td>
<td>5 off</td>
<td>Order gland V-M25 separately. Connection of 1.5/2.5 mm² round cables.</td>
</tr>
<tr>
<td>Flexible busbar power supply and junction</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-AM-7</td>
<td>5 off</td>
<td>Order gland V-M25 and V-M20 separately. Connection of round cables 4 mm².</td>
</tr>
<tr>
<td>Feeder plug with cables 400 V + AS-Interface</td>
<td>RA-MO-D... RA-MO-W... RA-SP.../C3A RA-C1-PLF</td>
<td>RA-C1-PLM/C3-1M5</td>
<td>New 1 off</td>
<td>Can be used when AS-Interface implemented in flat cable.</td>
</tr>
<tr>
<td>Flexible busbar junction for 400 V + AS-Interface</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-AM-7</td>
<td>5 off</td>
<td>Can be used when AS-Interface implemented in flat cable.</td>
</tr>
<tr>
<td>Connection module with cables 400 V + AS-Interface</td>
<td>RA-MO-D... RA-MO-W... RA-SP.../C3A RA-C1-7X4HF</td>
<td>RA-C1-AM/C3-1M5</td>
<td>New 1 off</td>
<td>Can be used when AS-Interface implemented in flat cable.</td>
</tr>
<tr>
<td>Connection clip for ASI flat cable</td>
<td>RA-C1-AM-7 RA-C1-AM/ C3-1M5 RA-C1-7X4HF</td>
<td>RA-C1-AZPG</td>
<td>New 1 off</td>
<td>With integrated AS-Interface overvoltage protection; protection against interference on switch operations or short-circuit.</td>
</tr>
<tr>
<td>Flexible busbar power supply and distributor module</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-VP-AM-2</td>
<td>2 off</td>
<td>Order gland V-M25/ V-M20 and bushing RA-C1-DF separately. Connection of round cables 4 mm².</td>
</tr>
<tr>
<td>Bushing for flexible busbar</td>
<td>RA-C1-VM-7</td>
<td>RA-C1-DF</td>
<td>10 off</td>
<td>--</td>
</tr>
<tr>
<td>Flexible busbar junction for 24 V DC</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-VP-AM-2</td>
<td>5 off</td>
<td>--</td>
</tr>
<tr>
<td>Flexible busbar fixing clips</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-FIX</td>
<td>100 off</td>
<td>One set with 100 clips.</td>
</tr>
<tr>
<td>Flexible busbar end-piece</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-END1</td>
<td>10 off</td>
<td>--</td>
</tr>
<tr>
<td>Tool</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-CUT</td>
<td>1 off</td>
<td>Standard engineer’s pliers are required.</td>
</tr>
<tr>
<td>Tool</td>
<td>RA-C1-7X4HF</td>
<td>RA-C1-AZ-4</td>
<td>1 off</td>
<td>--</td>
</tr>
</tbody>
</table>
## Accessories

### Remote power supply via RA-C2 round connector

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Article no.</th>
<th>Price</th>
<th>Std. pack</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA-C2-S1-4</td>
<td>257830</td>
<td>see price list</td>
<td>1 off</td>
<td>Suitable for cable external diameters 10 – 13/13 – 16 mm. Supplied: 2 pairs of seals for these cable diameters, 1 lock mechanism.</td>
</tr>
</tbody>
</table>

#### Round cable junction
- **For use with** For $T \times 2.5/4 \text{ mm}^2$ cable, $400 \text{ V AC}$ and $24 \text{ V DC}$, insulation piercing terminals, cable fixing with metal screws, prewired socket inserts
- **Part no.** RA-C2-S1-4
- **Article no.** 257830
- **Price** see price list
- **Std. pack** 1 off
- **Notes** Suitable for cable external diameters 10 – 13/13 – 16 mm. Supplied: 2 pairs of seals for these cable diameters, 1 lock mechanism.

#### Prefabricated plug for round cable junction
- **Part no.** RA-C2-S1-4
- **Article no.** 272089
- **Price** see price list
- **Std. pack** 1 off
- **Notes** Tools required: Crimping tool for HAN E contacts from Messers. Harting Minimum order quantity: 10 off

#### End piece for the last round cable junction in the power line
- **Part no.** RA-C2-S1-4
- **Article no.** 265357
- **Price** see price list
- **Std. pack** 10 off
- **Notes** One set with 10 filler plugs.

### Remote power supply via RA-C4 round cable

<table>
<thead>
<tr>
<th>Power box in IP 65</th>
<th>Contact unit for uncut power cables from 2.5 to 6 mm². T-junction via push-in terminal 1.5 to 6 mm² and/or plug terminal from 0.5 to 4 mm²; enclosure IP65, supplied without seals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part no.</td>
<td>Article no.</td>
</tr>
<tr>
<td>RA-C4-PB65</td>
<td>116905</td>
</tr>
</tbody>
</table>

#### Seal 11 - 13 mm
- **Part no.** RA-C4-PB65
- **Article no.** 116907
- **Price** see price list
- **Std. pack** 10 off
- **Notes** – |

#### Seal 13 - 15 mm
- **Part no.** RA-C4-PB65
- **Article no.** 116908
- **Price** see price list
- **Std. pack** 10 off
- **Notes** – |

#### Seal 15 - 17 mm
- **Part no.** RA-C4-PB65
- **Article no.** 116909
- **Price** see price list
- **Std. pack** 10 off
- **Notes** – |

#### Blanking plugs
- **Part no.** RA-C4-PB65
- **Article no.** 116960
- **Price** see price list
- **Std. pack** 10 off
- **Notes** – |

#### Plug for power box
- **Part no.** RA-C4-PB65
- **Article no.** 116906
- **Price** see price list
- **Std. pack** 10 off
- **Notes** – |

#### Power adapter cable with plug for power box
- **Part no.** RA-C4-PB65
- **Article no.** 116962
- **Price** see price list
- **Std. pack** 1 off
- **Notes** – |

#### Power adapter cable, for user assembly
- **Part no.** RA-C4-PB65
- **Article no.** 116961
- **Price** see price list
- **Std. pack** 1 off
- **Notes** – |
## Accessories

<table>
<thead>
<tr>
<th>For use with</th>
<th>Article no.</th>
<th>Price see price list</th>
<th>Std. pack</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AS interface</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addressing unit</td>
<td>RA-DI, RA-MO, RA-SP, AS2-74...</td>
<td>PG2-105-AD2 222172</td>
<td>1 off</td>
<td>–</td>
</tr>
<tr>
<td>M12 branch IDC termination</td>
<td>RA-IN, RA-MO, RA-SP, ZB2-155-KB1</td>
<td>ZB2-100-AZ1 082667</td>
<td>1 off</td>
<td>–</td>
</tr>
<tr>
<td>M12 double branch IDC cable termination</td>
<td>RA-MO.../C3A, RA-SP.../C3A, ZB2-155-KB1, ZB2-105-KB1</td>
<td>RA-XA22-1M 292253</td>
<td>1 off</td>
<td>For supply with AS-Interface and 24 V, 1 m cable with M12 socket</td>
</tr>
<tr>
<td>Extension cable with M12 socket and M12 plug 3-pole, 1 m</td>
<td>RA-MO.../C3A, RA-SP.../C3A, RA-DI...</td>
<td>RA-XM12-1M 272057</td>
<td>1 off</td>
<td>For extending the AS-Interface M12 cables, if required. Pins 1, 3, 4 are assigned.</td>
</tr>
<tr>
<td>Y connector</td>
<td>RA-SP-HE...</td>
<td>RA-XM12-Y 290424</td>
<td>1 off</td>
<td>For connecting up to 4 sensors</td>
</tr>
<tr>
<td><strong>Other accessories</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spare key For AUTO - OFF/RESET - HAND key-switches</td>
<td>RA-MO, RA-SP</td>
<td>M22-ES-MS1 216416</td>
<td>5 off</td>
<td>–</td>
</tr>
</tbody>
</table>
### Technical Data

#### Flat cable

- **RA-C1-7X4HF**

#### Power supply for flexible busbar

- RA-C1-AM-7
- RA-C1-VM-7

#### Flexible busbar junction

- RA-C1-PLF
- RA-C2-S...-4
- RA-C4-PB65

#### Technical Data

**Standards**
- IEC 60332-1
- DIN VDE 0295 Class 6
- DIN VDE 0281 Part 404

**Degree of protection (IEC 60529)**
- IP65

**Ambient temperature**
- °C
- -15...50

**Mounting position**
- As required

**Name rating limit, fire propagation**
- Self-extinguishing to IEC 60332-1

**Resistance to oils and acids**
- Material according to DIN VDE 0282, EVA mixture EM4, black

**Flame retardance, fire propagation**
- Material according to DIN VDE 0473, Part 811-2-1

**Resistance to oils and acids**
- To VDE 0472 Part 803 A/B

**Overallleak/capacity polarization degree**
- 10

**External diameter of cable**
- mm

**Main circuit**

- Rated operational voltage: 500 V AC
- Rated operational current: 25 A

**Control circuit**

- Rated voltage: 24 V DC
- Rated operational current: 24 A

**Overvoltage category/pollution degree**
- III/3

**Termination**
- Springloaded terminals 1.5 to 4 mm
- Twin-level terminal block, 1.5 to 4 mm

**External diameter of cable**
- mm

**Main circuit**

- Rated operational voltage: 500 V AC
- Rated operational current: 25 A

**Control circuit**

- Rated voltage: 24 V DC
- Rated operational current: 24 A

**Overvoltage category/pollution degree**
- III/3

**Termination**
- Springloaded terminals 1.5 to 4 mm
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**External diameter of cable**
- mm

**Main circuit**

- Rated operational voltage: 500 V AC
- Rated operational current: 25 A

**Control circuit**

- Rated voltage: 24 V DC
- Rated operational current: 24 A

**Overvoltage category/pollution degree**
- III/3

**Termination**
- Springloaded terminals 1.5 to 4 mm
- Twin-level terminal block, 1.5 to 4 mm

**External diameter of cable**
- mm

**General**

- Standards:
  - IEC 61 684 DIN VDE 0110
  - IP65
- Operation:
  - °C
  - 0...70
- Rated operational voltage:
  - Ue: 500 V AC
- Terminal capacity:
  - mm²
- External diameter of cable:
  - mm
- Terminal pitch:
  - mm
- Conductor material:
  - Cu flexible to VDE 0295 Class 6
- Material of outer casing:
  - Halogen free
- Colour:
  - Silver grey (RAL 7001)
- Resistance to oils and acids:
  - Material according to DIN VDE 0295 Class 6
- Name rating limit, fire propagation:
  - Self-extinguishing to IEC 60332-1
- Plug connector:
  - Contact cross-section of contact pins:
    - mm²
- Material:
  - Contact inserts:
    - Polycarbonate
  - Contact material:
    - Silver-plated copper
  - Housing:
    - Polycarbonate
  - Lock mechanism:
    - Plastic

**Flexible busbar junction**

- RA-C1-PLF
- RA-C2-S...-4
- RA-C4-PB65

**Technical Data**

**Standards**
- IEC 61 684 DIN VDE 0110
- IP65
- Operation:
  - °C
  - 0...70
- Rated operational voltage:
  - Ue: 500 V AC
- Terminal capacity:
  - mm²
- External diameter of cable:
  - mm
- Terminal pitch:
  - mm
- Conductor material:
  - Cu flexible to VDE 0295 Class 6
- Material of outer casing:
  - Halogen free
- Colour:
  - Silver grey (RAL 7001)
- Resistance to oils and acids:
  - Material according to DIN VDE 0295 Class 6
- Name rating limit, fire propagation:
  - Self-extinguishing to IEC 60332-1
- Plug connector:
  - Contact cross-section of contact pins:
    - mm²
- Material:
  - Contact inserts:
    - Polycarbonate
  - Contact material:
    - Silver-plated copper
  - Housing:
    - Polycarbonate
  - Lock mechanism:
    - Plastic
### Technical Data

#### General
- **Standards**
  - EN 50081
  - EN 50082
  - IEC/EN 6047

#### Degree of protection (IEC/EN 60529)
- IP55 IP56

#### Operation
- Ambient temperature, Storage: 
  - Temp. range: -10°C to 70°C
- Relative humidity: 5% to 95% non-cond. acc. 2 g

#### Vibration resistance (IEC/EN 60529-2-8, const. amplitude 0.15 mm/const. acceleration 2 g)
- E-shock: 0.5 – 360 vibrations/axis

#### Shock resistance (IEC/EN 60529-3-2)
- E-shock: 6 shocks/axis

#### Mounting position
- Vertical

#### Weight
- kg 0.7

#### LED O1
- 3W

#### Indication elements
- 7 Segment/LED

#### Main circuit
- **Supply**
  - Rated operational voltage: Ue V AC
  - Main current: I A
  - Rated operational current: Ie A
  - Rated uninterrupted current: Ile A
  - Rated impulse withstand voltage: Um

#### Short-circuit category/pollution degree
- 0H 1H

#### Frequency range
- Hz 50 – 60

#### Short-circuit protective device, type “F” coordination Type
- –

#### Rated conditional short-circuit current AC
- In<sub>ac</sub> A

#### Discharge current to PE
- mA

#### Motor circuit
- **Assign motor rating**
  - kW
  - Setting range, motor protection
  - A
  - Mapping data

#### Switching current to PE
- mA

#### Frequency range, motor output
- Hz

#### Control circuit
- **24 V DC**
  - Rated voltage: Ue V DC
  - Tolerance: %

#### Typical current consumption at 24 V DC
- mA

#### As-interface
- Max. total power consumption from As-Interface (36 V DC power supply unit)
- mA
  - 200

#### As-Interface Specification
- 2.1

#### ID code (Hex)
- 4

#### IO code (Hex)
- 4

#### Inputs
- Data input 0
  - DO
  - Switch position (01)
- Data input 1
  - DI
- Data input 2
  - DO
- Data input 3
  - DO

#### Outputs
- Data output 0
  - DO
  - LED 01
- Data output 1
  - DO
- Data output 2
  - DO
- Data output 3
  - DO

#### Mains connection cable
- Terminal capacities
- mm²

#### Material of outer casing
- –

---

<table>
<thead>
<tr>
<th>RA-IN</th>
<th>RA-DI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railler SK190-1063 (03/09)</td>
<td><a href="http://catalog.moeller.net">http://catalog.moeller.net</a></td>
</tr>
</tbody>
</table>
Rapid Link Switching and Installation System

Motor control unit
RA-MO

Speed control unit
RA-SP ... to 1.1 kW

RA-SP ... to 2.2 kW

Disconnect control unit
RA-DI

Interface control unit
RA-IN
Rapid Link Switching and Installation System

Dimensions

Round cable junction
RA-C2-S1-4

Flexible busbar junction
RA-C1-PLF
RA-C1-PLF1

Terminal module with spring-loaded terminal for 24 V and 400 V
RA-C1-AM-7

Terminal module with screw terminals for 24 V
RA-C1-VP-AM-2

Distributor module
RA-C1-VM-7
RA-C4-P865
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