



Contactor, 3p, 75HP/600VAC, SEMI F47

Part no. DILMF80(RAC24)
Article no. 104470
Catalog No. XTCE080F00T-F47

Delivery program

| | | | |
|-----------------------------------------------------------|----------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product range | | | Contactors |
| Application | | | Contactors for Semiconductor Industries acc. to SEMI F47 |
| Subrange | | | Contactors up to 150 A with electronic actuation |
| Utilization category | | | AC-1: Non-inductive or slightly inductive loads, resistance furnaces NAC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching |
| | | | |
| Notes | | | Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging. |
| Connection technique | | | Screw terminals |
| Rated operational current | | | |
| AC-3 | | | |
| 380 V 400 V | I_e | A | 80 |
| AC-1 | | | |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz | | | |
| Open | | | |
| at 40 °C | $I_{th} = I_e$ | A | 110 |
| enclosed | I_{th} | A | 80 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 225 |
| enclosed | I_{th} | A | 200 |
| Max. rating for three-phase motors, 50 - 60 Hz | | | |
| AC-3 | | | |
| 220 V 230 V | P | kW | 25 |
| 380 V 400 V | P | kW | 37 |
| 660 V 690 V | P | kW | 63 |
| AC-4 | | | |
| 220 V 230 V | P | kW | 12 |
| 380 V 400 V | P | kW | 20 |
| 660 V 690 V | P | kW | 26 |
| Contact sequence | | | |
| Instructions | | | Contacts to EN 50012. built-in suppressor circuit* |

Technical data

General

| | | | |
|-------------------|--|--|--|
| Mounting position | | | |
|-------------------|--|--|--|

AC

| | | | |
|------|--|--|--|
| AC-1 | | | |
|------|--|--|--|

| | | | |
|---------------------------------------------------------------|----------------|---------|------------|
| Rated operational current | | | |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz | | | |
| Open | | | |
| at 40 °C | $I_{th} = I_e$ | A | 110 |
| at 50 °C | $I_{th} = I_e$ | A | 98 |
| at 60 °C | $I_{th} = I_e$ | A | 90 |
| enclosed | I_{th} | A | 80 |
| Conventional free air thermal current, 1 pole | | | |
| open | I_{th} | A | 225 |
| enclosed | I_{th} | A | 200 |
| AC-3 | | | |
| Rated operational current | | | |
| Open, 3-pole: 50 – 60 Hz | | | |
| 220 V 230 V | I_e | A | 80 |
| 240 V | I_e | A | 80 |
| 380 V 400 V | I_e | A | 80 |
| 415 V | I_e | A | 80 |
| 440V | I_e | A | 80 |
| 500 V | I_e | A | 80 |
| 660 V 690 V | I_e | A | 65 |
| Motor rating | P | kWh | |
| 220 V 230 V | P | kW | 25 |
| 240V | P | kW | 27.5 |
| 380 V 400 V | P | kW | 37 |
| 415 V | P | kW | 48 |
| 440 V | P | kW | 51 |
| 500 V | P | kW | 58 |
| 660 V 690 V | P | kW | 63 |
| AC-4 | | | |
| Open, 3-pole: 50 – 60 Hz | | | |
| 220 V 230 V | I_e | A | 40 |
| 240 V | I_e | A | 40 |
| 380 V 400 V | I_e | A | 40 |
| 415 V | I_e | A | 40 |
| 440 V | I_e | A | 40 |
| 500 V | I_e | A | 40 |
| 660 V 690 V | I_e | A | 27 |
| Motor rating | P | kWh | |
| 220 V 230 V | P | kW | 12 |
| 240 V | P | kW | 13 |
| 380 V 400 V | P | kW | 20 |
| 415 V | P | kW | 24 |
| 440 V | P | kW | 25 |
| 500 V | P | kW | 29 |
| 660 V 690 V | P | kW | 26 |
| Current heat loss | | | |
| 3-pole at I_{th} | | W | 14.6 |
| Current heat loss at I_e to AC-3/400 V | | W | 11.5 |
| Magnet systems | | | |
| Voltage tolerance | | | |
| AC operated | Pick-up | $x U_c$ | 0.8 - 1.15 |
| Drop-out voltage AC operated | Drop-out | $x U_c$ | 0.2 - 0.5 |
| Power consumption of the coil in a cold state and $1.0 x U_c$ | | | |
| Electronic actuation | Pick-up | VA | 75 |

| | | | |
|------------------------|---------|------|----------|
| Electronic actuation | Sealing | VA | 2 |
| Electronic actuation | Sealing | W | 2 |
| Duty factor | | % DF | 100 |
| Operating times | | | |
| Closing delay | | ms | 55 |
| Opening delay | | ms | 40 |
| -suitable according to | | | SEMI F47 |

Electromagnetic compatibility (EMC)

| | | | |
|-----------------------|--|--|-------------------------|
| Emitted interference | | | according to EN 60947-1 |
| Interference immunity | | | according to EN 60947-1 |

Additional technical data

| | | | |
|--------------------|-----|--|-----|
| like the contactor | DIL | | M80 |
|--------------------|-----|--|-----|

Design verification as per IEC/EN 61439

| | | | |
|------------------------------------------------------------------------------------------------------------------------|------------|----|----------------------------------------------------------------------------------------------------------------------------------|
| Technical data for design verification | | | |
| Rated operational current for specified heat dissipation | I_n | A | 80 |
| Heat dissipation per pole, current-dependent | P_{vid} | W | 3 |
| Equipment heat dissipation, current-dependent | P_{vid} | W | 9 |
| Static heat dissipation, non-current-dependent | P_{vs} | W | 2 |
| Heat dissipation capacity | P_{diss} | W | 0 |
| Operating ambient temperature min. | | °C | -25 |
| Operating ambient temperature max. | | °C | 60 |
| IEC/EN 61439 design verification | | | |
| 10.2 Strength of materials and parts | | | |
| 10.2.2 Corrosion resistance | | | |
| | | | Meets the product standard's requirements. |
| 10.2.3.1 Verification of thermal stability of enclosures | | | |
| | | | Meets the product standard's requirements. |
| 10.2.3.2 Verification of resistance of insulating materials to normal heat | | | |
| | | | Meets the product standard's requirements. |
| 10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects | | | |
| | | | Meets the product standard's requirements. |
| 10.2.4 Resistance to ultra-violet (UV) radiation | | | |
| | | | Meets the product standard's requirements. |
| 10.2.5 Lifting | | | |
| | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.6 Mechanical impact | | | |
| | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.2.7 Inscriptions | | | |
| | | | Meets the product standard's requirements. |
| 10.3 Degree of protection of ASSEMBLIES | | | |
| | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.4 Clearances and creepage distances | | | |
| | | | Meets the product standard's requirements. |
| 10.5 Protection against electric shock | | | |
| | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.6 Incorporation of switching devices and components | | | |
| | | | Does not apply, since the entire switchgear needs to be evaluated. |
| 10.7 Internal electrical circuits and connections | | | |
| | | | Is the panel builder's responsibility. |
| 10.8 Connections for external conductors | | | |
| | | | Is the panel builder's responsibility. |
| 10.9 Insulation properties | | | |
| 10.9.2 Power-frequency electric strength | | | |
| | | | Is the panel builder's responsibility. |
| 10.9.3 Impulse withstand voltage | | | |
| | | | Is the panel builder's responsibility. |
| 10.9.4 Testing of enclosures made of insulating material | | | |
| | | | Is the panel builder's responsibility. |
| 10.10 Temperature rise | | | |
| | | | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| 10.11 Short-circuit rating | | | |
| | | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.12 Electromagnetic compatibility | | | |
| | | | Is the panel builder's responsibility. The specifications for the switchgear must be observed. |
| 10.13 Mechanical function | | | |
| | | | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed. |

Technical data ETIM 6.0

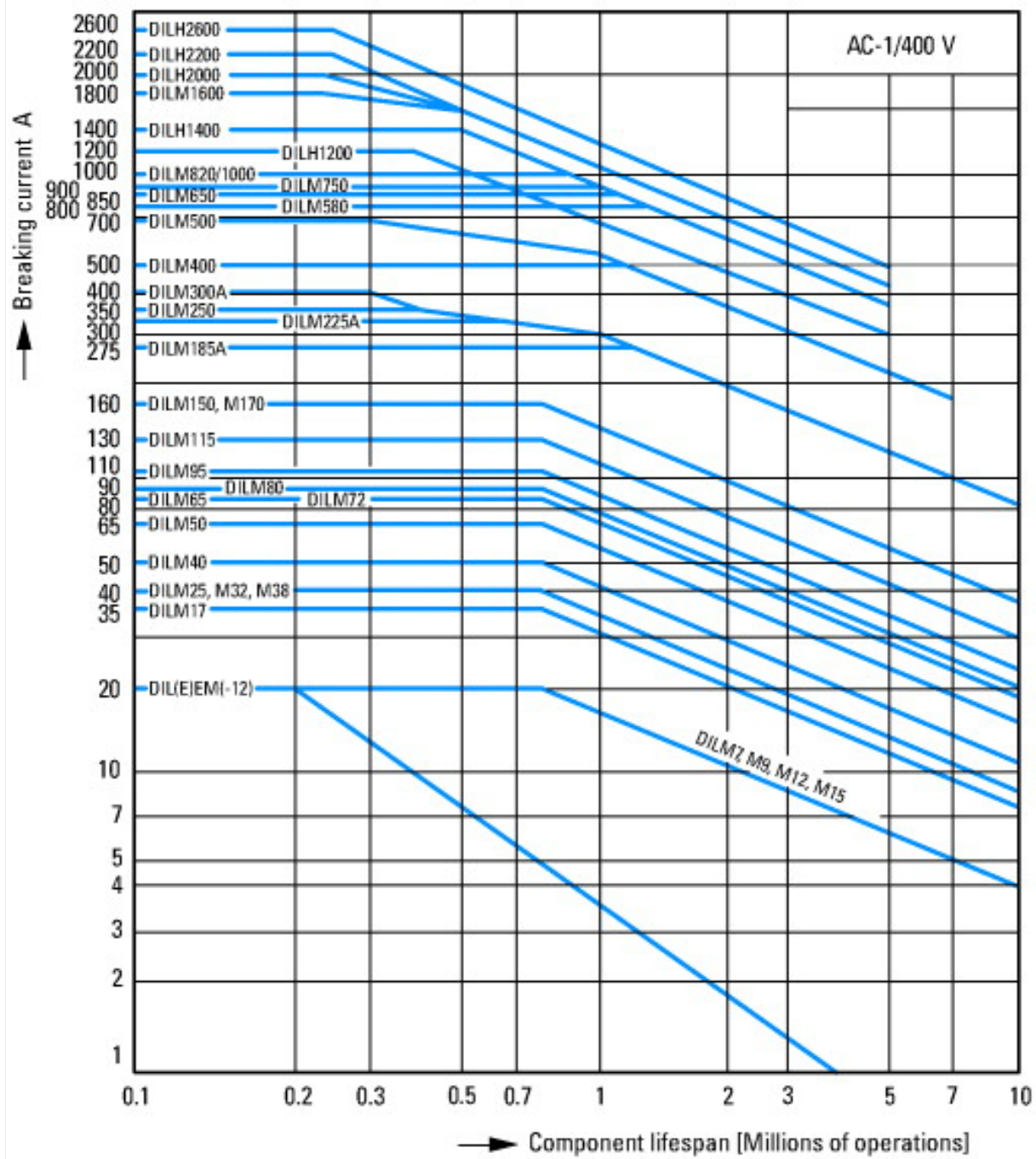
| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---|---------|
| Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066) | | | |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss8.1-27-37-10-03 [AAB718012]) | | | |
| Rated control supply voltage U_s at AC 50HZ | | V | 24 - 24 |
| Rated control supply voltage U_s at AC 60HZ | | V | 24 - 24 |

| | | |
|---------------------------------------------------------|----|------------------|
| Rated control supply voltage Us at DC | V | 0 - 0 |
| Voltage type for actuating | | AC |
| Rated operation current Ie at AC-1, 400 V | A | 90 |
| Rated operation current Ie at AC-3, 400 V | A | 80 |
| Rated operation power at AC-3, 400 V | kW | 37 |
| Rated operation current Ie at AC-4, 400 V | A | 40 |
| Rated operation power Ie at AC-4, 400 V | kW | 20 |
| Modular version | | No |
| Number of auxiliary contacts as normally open contact | | 0 |
| Number of auxiliary contacts as normally closed contact | | 0 |
| Type of electrical connection of main circuit | | Screw connection |
| Number of normally closed contacts as main contact | | 0 |
| Number of main contacts as normally open contact | | 3 |

Approvals

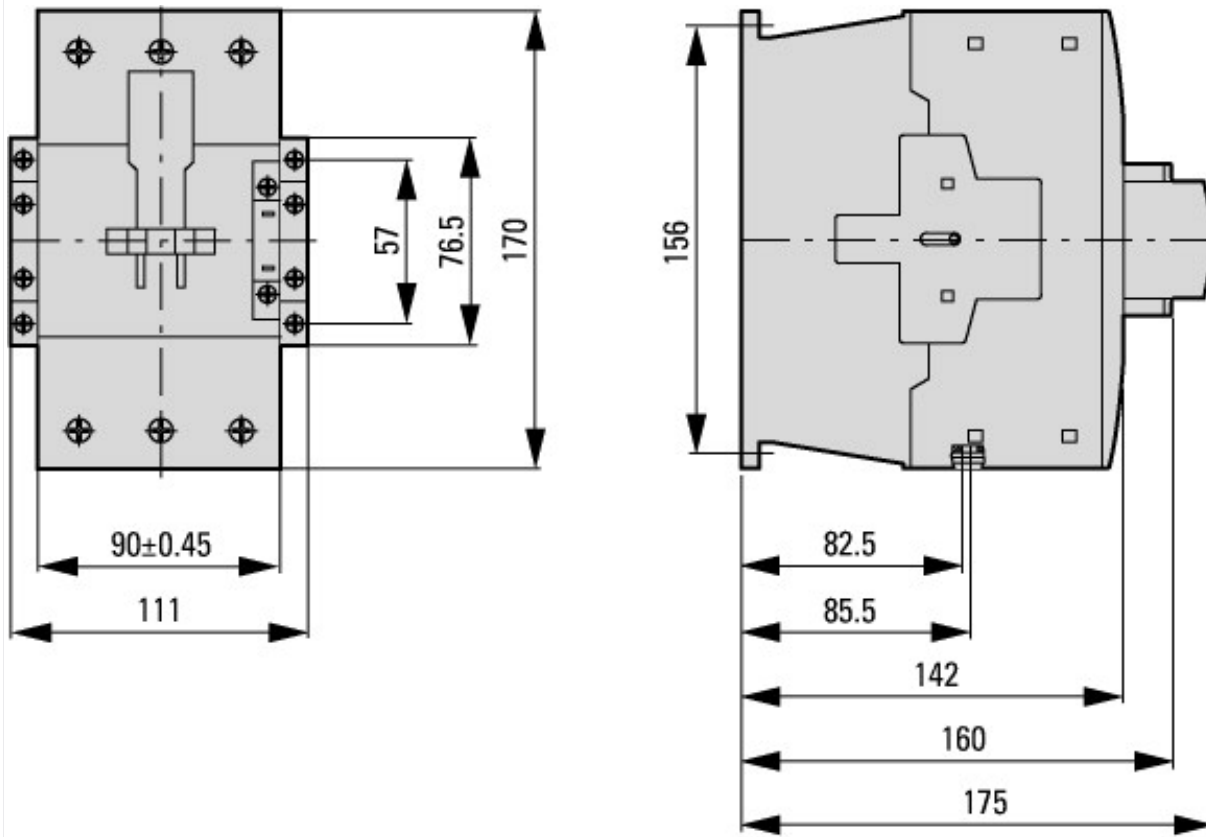
| | | |
|--------------------------------------|--|-----------------------------------------------------------|
| Product Standards | | IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking |
| UL File No. | | E29096 |
| UL Category Control No. | | NLDX |
| CSA File No. | | 012528 |
| CSA Class No. | | 2411-03, 3211-04 |
| North America Certification | | UL listed, CSA certified |
| Specially designed for North America | | No |

Characteristics

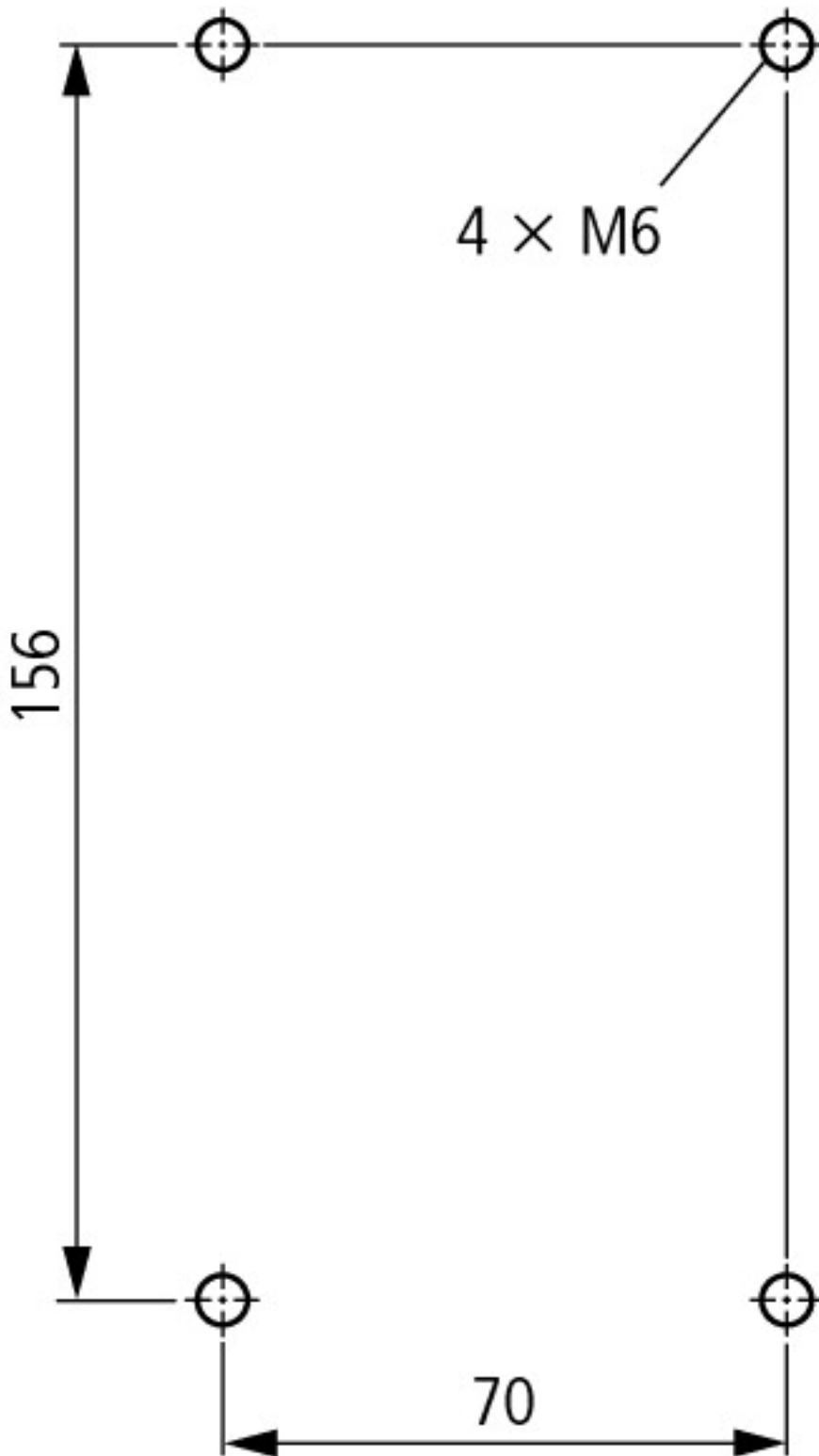


Switching conditions for non-motor consumers, 3 pole, 4 pole
 Operating characteristics
 Non inductive and slightly inductive loads
 Electrical characteristics
 Switch on: 1 x rated operational current
 Switch off: 1 x rated operational current
 Utilization category
 100 % AC-1
 Typical examples of application
 Electric heat

Dimensions



Contacteur with auxiliary contact module



Additional product information (links)

IL03407039Z (AWA2100-2286) Contactors

| | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IL03407039Z (AWA2100-2286) Contactors | ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407039Z2010_10.pdf |
| Switchgear of Power Factor Correction Systems | http://www.moeller.net/binary/ver_techpapers/ver934en.pdf |
| X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely | http://www.moeller.net/binary/ver_techpapers/ver938en.pdf |
| Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions | http://www.moeller.net/binary/ver_techpapers/ver944en.pdf |
| Effect of the Cable Capacitance of Long Control Cables on the Actuation of Contactors | http://www.moeller.net/binary/ver_techpapers/ver949en.pdf |
| Motor starters and "Special Purpose Ratings" for the North American market | http://www.moeller.net/binary/ver_techpapers/ver953en.pdf |
| Switchgear for Luminaires | http://www.moeller.net/binary/ver_techpapers/ver955en.pdf |

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|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts | http://www.moeller.net/binary/ver_techpapers/ver956en.pdf |
| The Interaction of Contactors with PLCs | http://www.moeller.net/binary/ver_techpapers/ver957en.pdf |
| Busbar Component Adapters for modern Industrial control panels | http://www.moeller.net/binary/ver_techpapers/ver960en.pdf |