

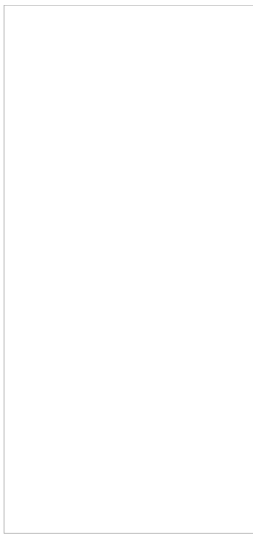
**DIL CONTACTORS**  
**107011**

  
Overview

  
Specifications

  
Resources

How to



# 107011

Eaton Moeller® series DILM Contactor, 3 pole, 380 V  
- 48 V 50/60 Hz, AC operation, Screw terminals



 [WIN-WIN with Push-in Terminals](#)

 [How to improve wiring](#)

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### 277950

Eaton Moeller® series DILM Auxiliary contact module, 4 pole, Ith= 16 A, 2 N/O, 2 NC, Front fixing, Screw terminals, DILM40 - DILM170

### 277946

Eaton Moeller® series DILM Auxiliary contact module, 2 pole, Ith= 16 A, 1 N/O, 1 NC, Front fixing, Screw terminals, DILM40 - DILM170

### 278464

Eaton Moeller® series ZB Overload relay, ZB150, Ir= 70 - 100 A, 1 N/O, 1 N/C, Direct mounting, IP00

### 278425

Eaton Moeller® series DILM Auxiliary contact module, 2 pole, Ith= 10 A, 1 N/O, 1 NC, Side mounted, Screw terminals, DILM40 - DILM225A, -SI

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## GENERAL SPECIFICATIONS

General specifications

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**PRODUCT NAME** Eaton Moeller® series DILM contactor

**CATALOG NUMBER** 107011

Product specifications

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**MODEL CODE** DILM170(RAC48)

**EAN** 4015081064199

**PRODUCT LENGTH/DEPTH** 160 mm

**PRODUCT HEIGHT** 170 mm

**PRODUCT WIDTH** 90 mm

**PRODUCT WEIGHT** 2.25 kg

**CERTIFICATIONS** CSA  
UL File No.: E29096  
UL 60947-4-1  
UL  
CSA File No.: 012528  
VDE 0660  
IEC/EN 60947  
UL Category Control No.: NLDX  
CE  
CSA Class No.: 2411-03, 3211-04  
CSA-C22.2 No. 60947-4-1-14  
IEC/EN 60947-4-1

**CATALOG NOTES** Contacts according to EN 50012

## PRODUCT SPECIFICATIONS

**TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)** 1 x (10 - 95) mm<sup>2</sup>, Main cables  
2 x (10 - 70) mm<sup>2</sup>, Main cables  
1 x (0.75 - 2.5) mm<sup>2</sup>, Control circuit cables  
2 x (0.75 - 2.5) mm<sup>2</sup>, Control circuit cables

**RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)** 170 A

**10.11 SHORT-CIRCUIT RATING** Is the panel builder's responsibility. The specifications must be observed.

**RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ** 90 kW

**CONVENTIONAL THERMAL CURRENT I<sub>TH</sub> (3-POLE, ENCLOSED)** 166 A

**RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ** 33 kW

**RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V** 65 A

**TERMINAL CAPACITY (COPPER BAND)** 2 x (6 x 16 x 0.8) mm (Number of segments x width of cables)

**RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50** 42 V

<b>HZ - MIN</b>	
<b>CONVENTIONAL THERMAL CURRENT I<sub>TH</sub> AT 60°C (3-POLE, OPEN)</b>	185 A
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT</b>	0
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)</b>	300/300 A, Class J, max. Fuse, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 250 A, max. CB, SCCR (UL/CSA)
<b>CONVENTIONAL THERMAL CURRENT I<sub>TH</sub> AT 55°C (3-POLE, OPEN)</b>	190 A
<b>RATED OPERATIONAL POWER (NEMA)</b>	93 kW
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	40 °C
<b>FITTED WITH:</b>	Suppressor circuit in actuating electronics
<b>RATED BREAKING CAPACITY AT 380/400 V</b>	1500 A
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	600 A, max. CB, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 600 A, max. Fuse, SCCR (UL/CSA)
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	48 V
<b>RATED BREAKING CAPACITY AT 660/690 V</b>	1320 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V</b>	90 A
<b>SPECIAL PURPOSE RATING OF ELEVATOR CONTROL</b>	100 HP, 600 V 60 Hz 3-ph, (UL/CSA) 75 HP, 480 V 60 Hz 3-ph, (UL/CSA) 96 A, 480 V 60 Hz 3-ph, (UL/CSA) 99 A, 600 V 60 Hz 3-ph, (UL/CSA) 92 A, 200 V 60 Hz 3-ph, (UL/CSA) 104 A, 240 V 60 Hz 3-ph, (UL/CSA) 30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 40 HP, 240 V 60 Hz 3-ph, (UL/CSA)
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	10 HP
<b>RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ</b>	41 kW
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>NUMBER OF POLES</b>	Three-pole
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to

<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to
<b>APPLICATION</b>	Contactors for Motors
<b>OPERATING FREQUENCY</b>	3000 mechanical Operations/h (AC operated)
<b>VOLTAGE TYPE</b>	AC
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V</b>	250 A gG/gL
<b>PRODUCT CATEGORY</b>	Contactors
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V</b>	65 A
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	96 kW
<b>POWER CONSUMPTION, PICK-UP, 50 HZ</b>	180 VA, Dual-frequency coil in a cold state and 1.0
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	125 HP
<b>SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS</b>	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase,
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN</b>	35 ms
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V</b>	65 A
<b>RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ</b>	57 kW
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	690 V
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	18 - 14, Control circuit cables Single 8...3/0, double 8...2/0, Main cables
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>DEGREE OF PROTECTION</b>	IP00
<b>OVERVOLTAGE CATEGORY</b>	III
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	41 ms
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	80 °C
<b>POLLUTION DEGREE</b>	3
<b>RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V</b>	225 A
<b>POWER CONSUMPTION, PICK-UP, 60 HZ</b>	170 VA, Dual-frequency coil in a cold state and 1.0
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	33 ms

<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	8000 V AC
<b>CONNECTION</b>	Screw terminals
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	230 V
<b>TIGHTENING TORQUE</b>	1.2 Nm, Screw terminals, Control circuit cables 14 Nm, Screw terminals, Main cables
<b>RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ</b>	48 kW
<b>FRAME SIZE</b>	FS4
<b>CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)</b>	415 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	100 A
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	170 A
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN</b>	28 ms
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V</b>	250 A gG/gL
<b>SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS</b>	160 A (600V 60Hz 3phase, 347V 60Hz 1phase) 160 A (480V 60Hz 3phase, 277V 60Hz 1phase)
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0
<b>SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING</b>	170 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. (UL/CSA) 1020 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. (UL/CSA)
<b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>	120 kW
<b>SHOCK RESISTANCE</b>	10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, 10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, 5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms 7 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms 7 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted,
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V</b>	160 A

<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	60 HP
<b>DROP-OUT VOLTAGE</b>	AC operated: 0.6 - 0.25 x UC, AC operated
<b>POWER CONSUMPTION, SEALING, 60 HZ</b>	2.3 W, Dual-frequency coil in a cold state and 1.0 x 3.1 VA, Dual-frequency coil in a cold state and 1.0 x
<b>RESISTANCE PER POLE</b>	0.6 mΩ
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	25 °C
<b>STRIPPING LENGTH (CONTROL CIRCUIT CABLE)</b>	10 mm
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	690 V
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications must be observed.
<b>SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)</b>	540 A, LRA 480 V 60 Hz 3phase; (CSA) 90 A, FLA 480 V 60 Hz 3phase; (CSA) 540 A, LRA 600 V 60 Hz 3phase; (CSA) 90 A, FLA 600 V 60 Hz 3phase; (CSA)
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to
<b>STRIPPING LENGTH (MAIN CABLE)</b>	24 mm
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING</b>	160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, 160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase,
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	0 V
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	30 kA, CB, SCCR (UL/CSA) 350 A, max. CB, SCCR (UL/CSA) 300/600 A, Class J, max. Fuse, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA)
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)</b>	3
<b>RATED BREAKING CAPACITY AT 220/230 V</b>	1500 A
<b>SCREW SIZE</b>	M3.5, Terminal screw, Control circuit cables 5 mm AF, Hexagon socket-head spanner, Terminal M10, Terminal screw, Main cables
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V</b>	65 A
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V</b>	250 A gG/gL
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	125 HP
<b>PROTECTION</b>	Finger and back-of-hand proof Protection against direct actuated from front (EN 50274)

<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	2.3 W, Dual-frequency coil in a cold state and 1.0 x 3.1 VA, Dual-frequency coil in a cold state and 1.0 x 3.1 VA
<b>RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ</b>	105 kW
<b>TERMINAL CAPACITY (STRANDED)</b>	1 x (16 - 95) mm <sup>2</sup> , Main cables 2 x (16 - 70) mm <sup>2</sup> , Main cables
<b>RATED BREAKING CAPACITY AT 500 V</b>	1500 A
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	100 kW
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>EMITTED INTERFERENCE</b>	According to EN 60947-1
<b>CONNECTION TO SMARTWIRE-DT</b>	No
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	2.3 W
<b>RATED CONTROL SUPPLY VOLTAGE(US) AT DC - MAX</b>	0 V
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>UTILIZATION CATEGORY</b>	AC-3: Normal AC induction motors: starting, switching AC-4: Normal AC induction motors: starting, plugging, inching AC-1: Non-inductive or slightly inductive loads, resistive
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V</b>	170 A
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be protected
<b>SAFE ISOLATION</b>	690 V AC, Between the contacts, According to EN 60947-1 690 V AC, Between coil and contacts, According to EN 60947-1
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	230 V
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the instructions in the instruction leaflet (IL) is observed.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	13.7 W
<b>ACTUATING VOLTAGE</b>	RAC 48: 42 - 48 V 50/60 Hz
<b>RESIDUAL CURRENT</b>	1 mA (with actuation of A1 - A2 by the electronics)
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V</b>	50 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	41.1 W
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	50 HP
<b>PICK-UP VOLTAGE</b>	0.8 - 1.15 V AC x U <sub>c</sub>

<b>CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)</b>	225 A
<b>TERMINAL CAPACITY (SOLID)</b>	2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables 1 x (0.75 - 4) mm <sup>2</sup> , Control circuit cables
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	0
<b>INTERFERENCE IMMUNITY</b>	According to EN 60947-1
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>LIFESPAN, MECHANICAL</b>	10,000,000 Operations (AC operated)
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V</b>	250 A gG/gL
<b>RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)</b>	2100 A
<b>RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ</b>	22 kW
<b>RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ</b>	47 kW
<b>RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V</b>	160 A
<b>RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ</b>	20 kW
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	690 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	42 V
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the device
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	225 A, Maximum motor rating (UL/CSA)
<b>CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)</b>	200 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	170 A
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	30 HP
<b>SCREWDRIVER SIZE</b>	2, Terminal screw, Control circuit cables, Pozidriv 0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, screwdriver
<b>DUTY FACTOR</b>	100 %
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V,</b>	170 A



<b>230 V, 240 V</b>	1/0 A
<b>CONVENTIONAL THERMAL CURRENT I<sub>TH</sub> OF MAIN CONTACTS (1-POLE, OPEN)</b>	460 A
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	48 V
<b>ARCING TIME</b>	15 ms
<b>RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ</b>	39 kW
<b>RATED INSULATION VOLTAGE (UI)</b>	690 V
<b>ALTITUDE</b>	Max. 2000 m

Catalogs

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Characteristic curve

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Declarations of conformity

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Drawings

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eCAD model

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Installation instructions

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Installation videos

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mCAD model

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System overview

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Wiring diagrams

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Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power — today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy and helping to solve the world's most urgent power management challenges.