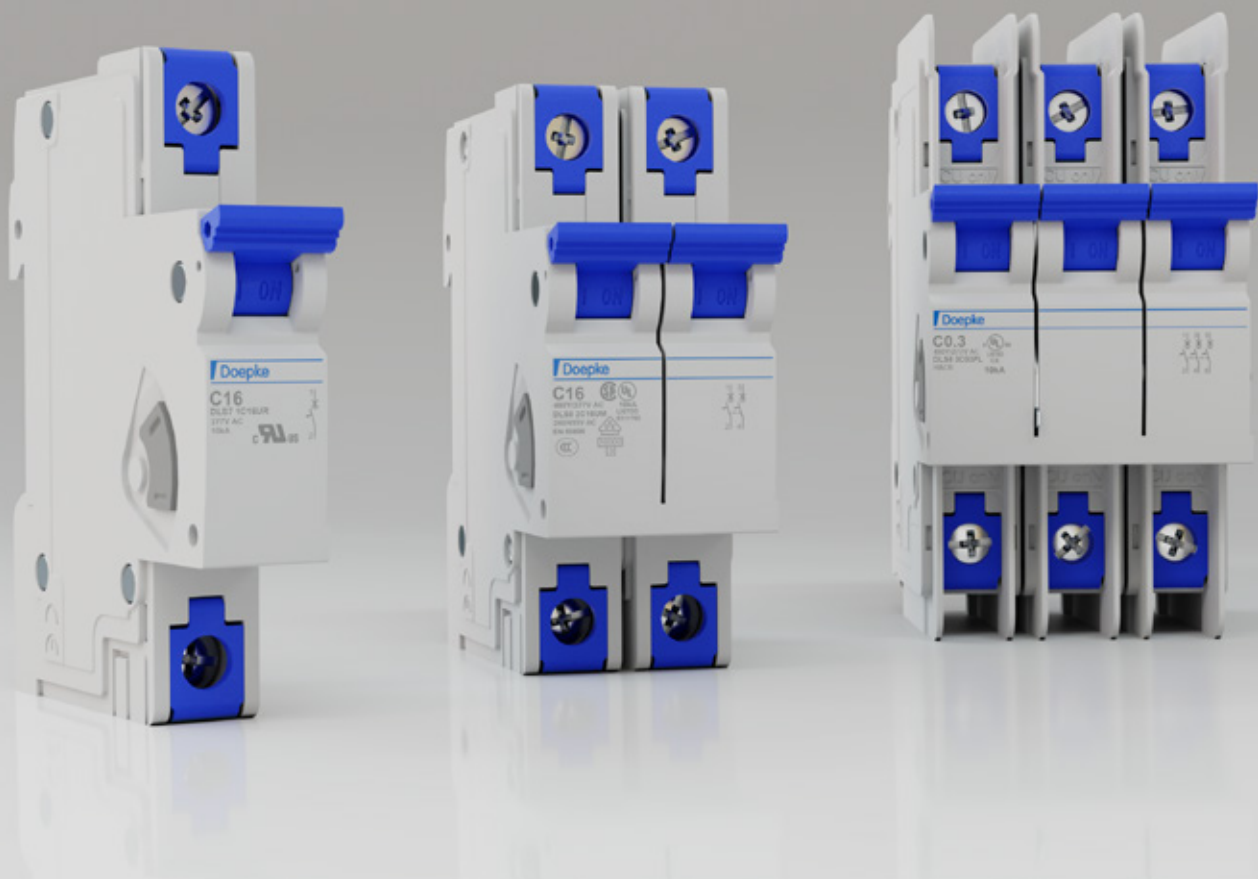


Line protection with UL approval

- DLS 7 | 8 | 9 — individual connection options
- maximum space gain thanks to compact design
- extra-small rated current increments
for optimum system protection

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Miniature circuit-breakers – safety in accordance with UL standards

Product standards in North America and in some other countries have a different emphasis from those in Europe. This is because UL standards apply here. UL (Underwriters Laboratories Inc.®) is one of the leading organisations for testing and certification in the area of product safety.

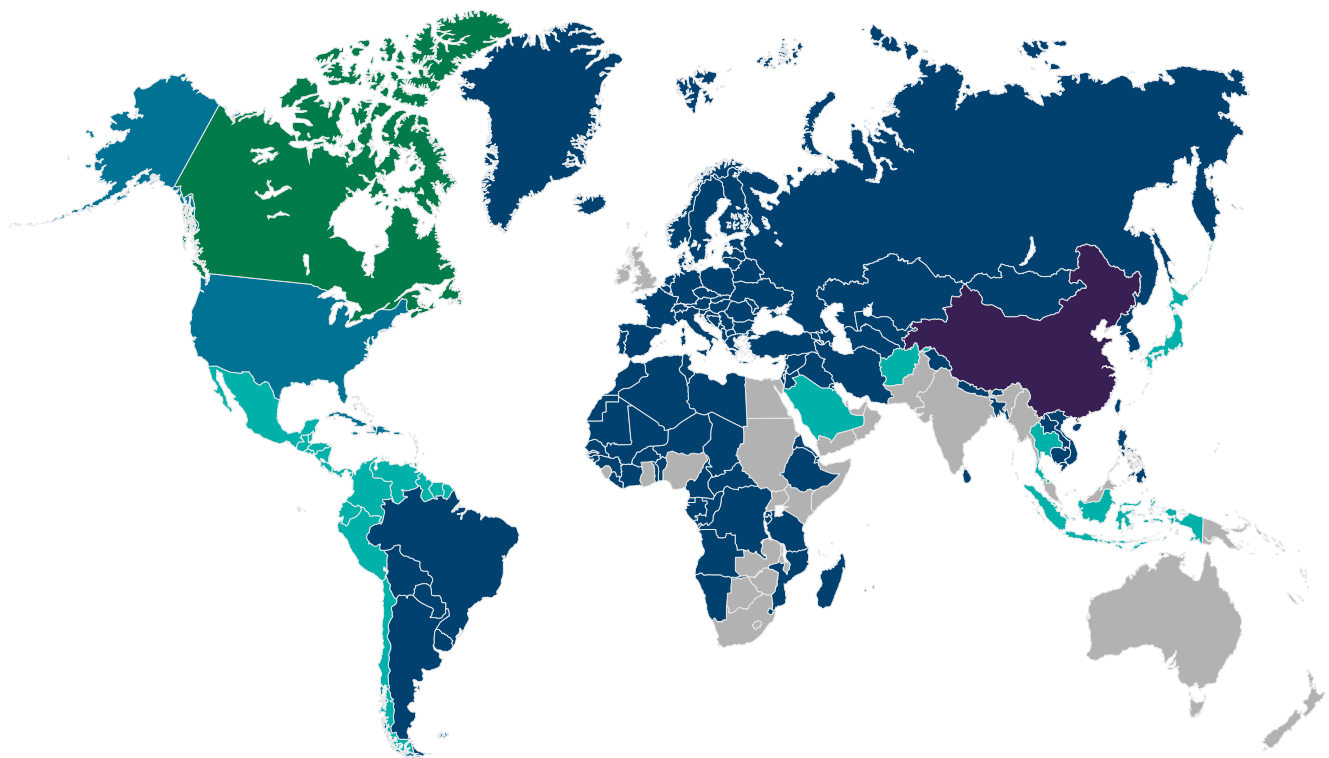
Since 2019, Doepke has been expanding its production of miniature circuit-breakers and therefore also its product portfolio: the three product series DLS 7, 8 and 9 are optimised for various applications in industry and plant engineering. All three series are certified to their own UL standard and are therefore easy to tell apart. In addition to this certification, all three series offer maximum space gain thanks to their compact design, which is convenient for wiring. The special busbar system enables easy and fast installation in the network. What's more, it is also possible to connect a multitude of additional devices, such as operating current trips, fault sensors and auxiliary sensors.

What is behind UL?

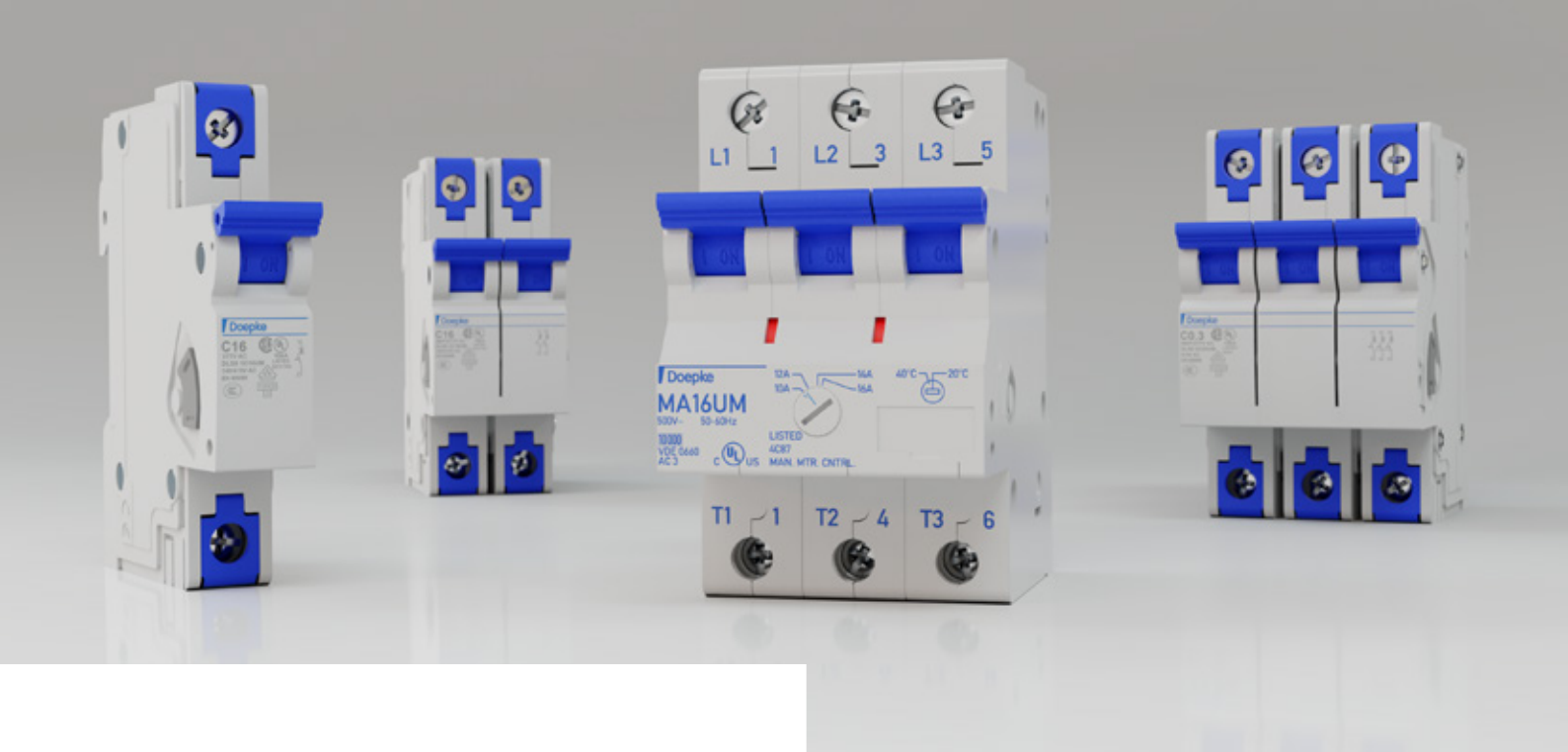
The organisation UL (Underwriters Laboratories Inc. ©) is one of the global leaders in product safety testing and certification. The certification process is very extensive and includes material, parts, manufacturing and product tests. Essentially, safety is checked with regard to personal injury and the occurrence of fires. UL provide the current safety guidelines for North America and parts of South America.

What is the difference compared to the IEC?

The IEC merely lays down the minimum safety requirements for a product. All the other details – such as the product design and technical structure – are decided by the manufacturers themselves. The UL certification requirements are much more extensive. Depending on the standard, UL may regulate everything from the design data and production process right through to application and assembly of the product. Accordingly, manufacturers have to undergo regular checks to retain their certification.



■ IEC/UL ■ UL ■ CSA/UL ■ IEC ■ British standard ■ CCC



DLS 8 – UL 508

The UL 508 is popular because devices with this certification are permitted to be used by specialists and trained personnel in the industry. A selection of our DLS 8s are IEC- and UL-certified and therefore enable systems to be standardised worldwide. This is particularly advantageous for switchgear manufacturers in order to avoid delays due to a lack of commissioning approvals.

- DLS 8**
- act as supplementary protection
 - extra-small nominal current increments for optimum installation
 - protection: 27 nominal currents from 0.3 A to 60 A
 - provide the functions: overload protection, isolation, switching, particularly in motor circuits
 - smallest certified UL 508 switching device
 - with an installation height of just 89.3 mm
 - perfectly standardised installations thanks to combined IEC + UL approval

Motor circuit breakers

- DMS 508**
- ‘Manual Motor Controller with Disconnecting Means’
 - facilitates easy busbar installation when installed in distribution boards and control cabinets
 - adjustable current limit up to 40 A
 - tripping due to high inrush currents is significantly reduced
 - ranges > 10 A have a switching capacity of 10 kA
 - IE3-compliant – for motors with higher efficiency
 - certified pursuant to UL 508

DLS 9 – UL 489

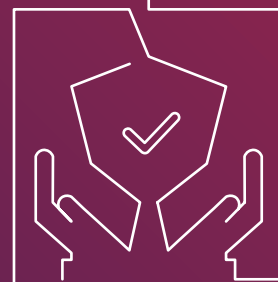
In addition to our product line in accordance with UL 508, we also offer a range of 'Listed Circuit Breaker' switching devices in accordance with UL 489 for 'Feeder' and 'Branch Circuit Protection'. All circuits, from the power source to the power outlet, can be protected with these devices. Use no longer needs to be approved by a UL Inspector and any electrician can install them. Applications for the switching devices in accordance with UL 489 include power circuits, protection of heating devices, refrigeration and air-conditioning systems, through to sockets and lighting.

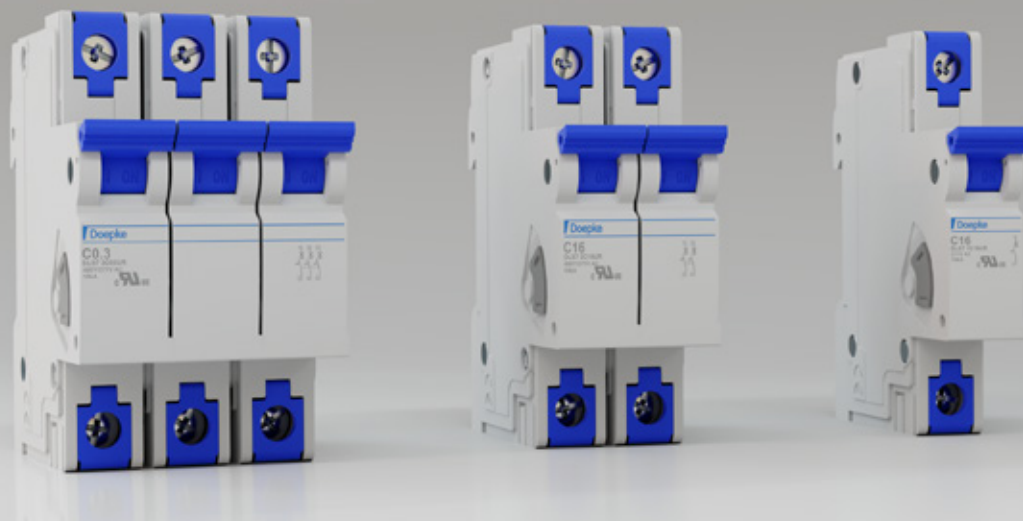
- DLS 9** ————— are used for branch circuit protection
- provide the functions: overload protection, isolation, switching, short-circuit protection without back-up fuse (up to the nominal breaking capacity)
 - approved for HACR applications
 - extra-small nominal current increments for optimum installation protection: 23 nominal currents from 0.3 A to 63 A
 - one of the smallest UL 489 miniature circuit-breakers with an installation height of just 105 mm
 - DC product series: Provided that the polarity +/- is respected, current can be supplied at the top or the bottom



DLS 9 PL

- DLS 9 PL** ————— multipole DLS 9 in PL (Push Lock) design have an integrated reclosing lockout





DLS 7 – UL 1077

Switching devices in accordance with UL 1077 are approved as components, i.e. 'Supplementary Protectors', for 'factory wiring'. The UR marking for 'Recognized Component' shows the UL approval. The approval permits the switch to be installed into controllers that are project managed, wired and tested by specially trained personnel at the factory. They therefore only provide additional overcurrent protection for specific applications.

- DLS 7** — provide supplementary protection
- Intended for control current circuits
 - as a component for installation in switching devices according to the UL 508A listing requirements
 - from 0.5 to 60 amps
 - provides the function: Overload protection
 - UR certificate

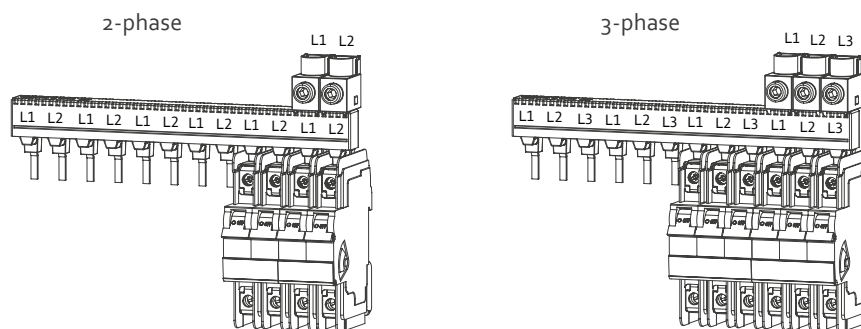
	DLS 9					DLS 8					DLS 7		
Regulations	UL 489					UL 508					UL 1077		
Rated voltage	240 V AC	277 V AC	480 V AC	125 V DC	250 V DC	277 V AC	480 V AC	42 V DC	80 V DC	24 V DC	60 V DC	277 V AC	480 V AC
Number of poles	1, 2, 3	1	2, 3	1	2	1	2, 3	1	2	1	2	1	2, 3
B characteristic						1-60 A	1-60 A	1-25 A	1-25 A	30-60 A	30-60 A	0.5-60 A	0.5-60 A
C characteristic	40-63 A	0.3-32 A	0.3-32 A	0.3-63 A	0.3-63 A	0.3-60 A	0.3-60 A	0.3-25 A	0.3-25 A	30-60 A	30-60 A	0.5-60 A	0.5-60 A
D characteristic	40-63 A	0.3-32 A	0.3-32 A	0.3-63 A	0.3-63 A	0.3-60 A	0.3-60 A	0.3-25 A	0.3-25 A	30-60 A	30-60 A	0.5-60 A	0.5-60 A
E characteristic						0.3-60 A	0.3-60 A	0.3-25 A	30-60 A	30-60 A			
G characteristic						0.3-60 A	0.3-60 A	0.3-25 A	30-60 A	30-60 A			
Z characteristic	40-63 A	0.3-32 A	0.3-32 A			0.3-50 A	0.3-50 A	0.3-25 A	30-50 A	30-50 A			

* Further characteristics and current strengths available on request

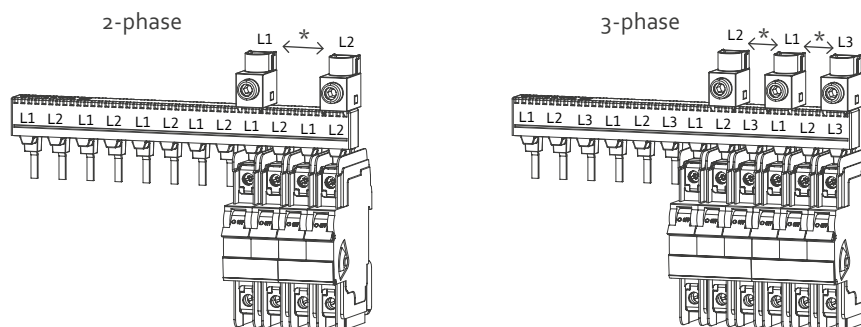
Accessories for miniature circuit-breakers

- Operating current trip** — The operating current trip enables remote tripping of circuit-breakers. Following activation by the operating current of an external voltage source, they mechanically disconnect the coupled MCB.
- Auxiliary switch** — Auxiliary switches report the status of the main devices to which they are fitted. They trip in parallel to the miniature circuit-breaker when switched off by hand or because of overload or short-circuit.
- Busbars** — These components for the wiring of circuit breakers in industrial, commercial and privately used electrical distribution units significantly reduce the installation work. Busbars are available in various lengths and designs.

Arrangement of input terminals ≤ 240 V AC



Arrangement of input terminals 480 Y / 277 V AC



* Between input terminals of different polarity, a minimum gap of one pole must be observed for applications with nominal voltages 480 Y / 277 V!



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