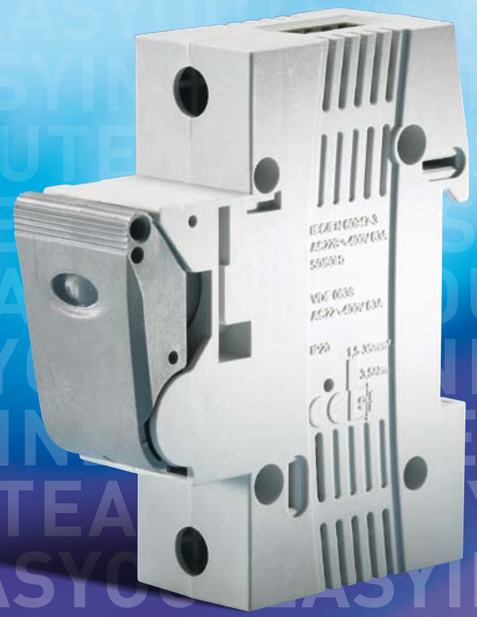
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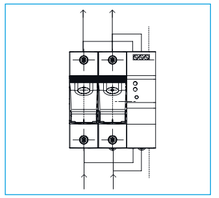
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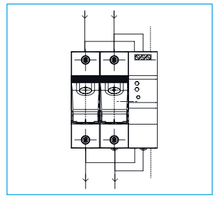
CARBONE LORRAINE



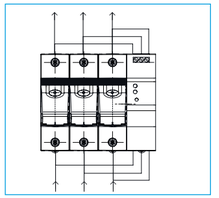
2-pole Linocur
Infeed from below



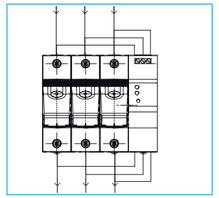
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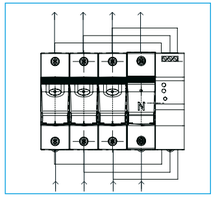
3-pole Linocur
Infeed from below



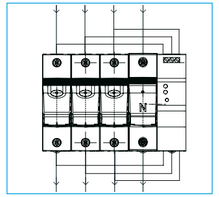
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3+N Linocur
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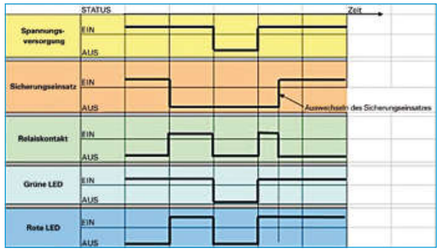


Infeed from above



The devices have two LED indicators:
green LED lit:
normal operating status, supply voltage present, fuses correct, switch lever closed
green and red LEDs flashing:
at least one fuse has disconnected (for types 2 and 3).
green and red LEDs lit:
Switch open (for types 1 and 3)
green and red LEDs not lit:
The device has no supply voltage and is not operating.

Timecourse (for types 2 and 3)

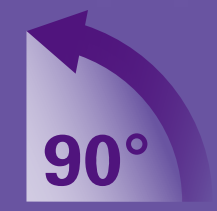


The monitoring devices have a test button which can be used to simulate faults. The test button must be held down for a minimum of 2 seconds. The relay then switches. This operation is indicated by the red LED. After 3 to 5 seconds, the relay switches back to its basic status and the red LED goes out.

Technical data for Linocur monitoring devices

Suitable for the Linocur types	2-pole, 3-pole, 3+N
Operating voltage	~400 V (±10 %)
Device width	27 mm (like one Linocur pole)
Protection	IP20
Storage temperature	- 40° C to 70° C
Operating temperature	- 20° C to 60° C
Connectors for connection to	
Linocur	2 x 3 box terminals, 2.5 mm^2
Relay output	3 box terminals, 2.5 mm^2
Relay	1 change-over contact max. ~250 V / 2 A minimum load 10 mA at 12 V
Relay insulation voltage	~5000 V
Insulation voltage of open relay contact	~1000 V
Insulation test U_{imp}	6 kV
Pulse test voltage between	
Phase input and output	9.6 kV
phase-to-phase	7.2 kV
Power section and output terminals	7.2 kV
Material	Halogen-free, UL listed, RoHS
Contact	Cadmium-free

The new LINOCUR with 90° rotation



A turn-up for improved safety and speed

With the market launch of the 7th generation of its D0-Linocur miniature circuit breaker, Ferraz Shawmut is continuing the uninterrupted success of a product that goes back 35 years.
The D0-Linocur is a compact combination of a D0 fuse socket and miniature circuit breaker brought together in a single housing with a rated current of up to 63 A and a rated voltage of up to ~440 V.

The technical design of the new D0-Linocur is characterized by
- sophisticated switching and terminal technology together with
- optimum safety and ease of use and
- high speed.

The range is rounded off by a newly developed monitoring device.

One of the outstanding safety principles of the new product lies in the specially developed bayonet-type screw cap.



Compared to conventional screw caps with Edison threads, the new design possesses a defined, clearly visible start and end position.
It is no longer necessary to search for the start of the thread. A single 90° rotation is enough to screw in or out. The correct end position for screw cap can be seen at a glance. In practice, this means that it takes considerably less time to insert or replace fuse links.

The D0-Linocur also possesses generously sized, solid copper strip conductors. What is more, the switch is manufactured from high temperature-resistant materials which guarantee secure operation even when subjected to significant thermal stresses due to high ambient temperatures.

Monitoring device as an accessory for all Linocur products
Ferraz Shawmut provides three different monitoring devices as accessories when Linocur products are used: one for the switch position, one for fuse deactivation and one device which combines these two functions. The device is connected externally in parallel to the Linocur switch which also supplies it with power.



D0-LINOCUR miniature circuit breaker as per DIN VDE 0638 and 0660 Part 107 gL-gG, aM, gR (only with limitations) D02 ~230/400 V,-65 V · can be sealed for mounting on support rails as per DIN EN 60715, fuse links and gauge pieces not supplied



Size	Number of poles	Rated current in A	Subdivisions	Max wiring cross-section in mm²	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	1	63	1.5	35	05861.063000	Z1012620C	**05861.063000**	78	138	3
D02	2	63	3	35	05862.063000	J1012606B	**05862.063000**	78	279	2
D02	3	63	4.5	35	05863.063000	B1012622A	**05863.063000**	78	418	1
D02*)	1+N	63	3	35	05861.063100	H1012628B	**05861.063100**	78	253	2
D02*)	3+N	63	6	35	05863.063100	E1012602A	**05863.063100**	78	531	1

*) in the 1+N and 3+N variants, the N conductor is leading on switch-on and lagging on switch-off

D0-LINOCUR miniature circuit breaker as per DIN VDE 0638 and 0660 Part 107 gL-gG, aM, gR (only with limitations) D02 -220 V · can be sealed for mounting on support rails as per DIN EN 60715, fuse links and gauge pieces not supplied



Size	Number of poles	Rated current in A	Max wiring cross-section in mm²	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	4	63	35	05864.063000	L1012608A	**05864.063000**	78	554	1

The four poles must be connected in series, either two poles in the positive connection and two poles in the negative connection or all four poles in either the positive or negative connection

D0-LINOCUR miniature circuit breaker as per DIN VDE 0638 and 0660 Part 107 gL-gG, aM, gR (only with limitations) D02 ~230/400 V,-65 V · can be sealed with fixed gauge pieces, without fuse links, for mounting on support bars in accordance with DIN EN 60715



Size	Number of poles	Rated current in A	Subdivisions	Max wiring cross-section in mm²	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	1	20	1.5	35	05861.020000	M1012609C	**05861.020000**	78	150	3
D02	1	25	1.5	35	05861.025000	A1012621C	**05861.025000**	78	151	3
D02	2	25	3	35	05862.025000	B1012760B	**05862.025000**	78	305	2
D02	3	25	4.5	35	05863.025000	G1012627A	**05863.025000**	78	457	2
D02	1	35	1.5	35	05861.035000	N1012610C	**05861.035000**	78	151	3
D02	2	35	3	35	05862.035000	D1012624B	**05862.035000**	78	305	2
D02	3	35	4.5	35	05863.035000	E1012625A	**05863.035000**	78	475	1
D02	1	50	1.5	35	05861.050000	C1012761C	**05861.050000**	78	153	3
D02	2	50	3	35	05862.050000	D1012762B	**05862.050000**	78	308	2
D02	3	50	4.5	35	05863.050000	P1012611A	**05863.050000**	78	462	1

D0-LINOCUR miniature circuit breaker as per DIN VDE 0638 and 0660 Part 107 gL-gG, aM, gR (only with limitations) D02 ~250/440 V, shipbuilding can be sealed for mounting on support rails as per DIN EN 60715, fuse links and gauge pieces not supplied



Size	Number of poles	Rated current in A	Subdivisions	Max wiring cross-section in mm²	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	1	63	1.5	35	05861.063040	H1012605C	**05861.063040**	78	138	3
D02	2	63	3	35	05862.063040	S1012614B	**05862.063040**	78	279	2
D02	3	63	4.5	35	05863.063040	J1012629A	**05863.063040**	78	418	1
D02*)	3+N	63	6	35	05863.063140	T1012615A	**05863.063140**	78	253	1

*) in the 3+N variant, the N conductor is leading on switch-on and lagging on switch-off

Replacement screw cap for D0-LINOCUR
Insulating material, bayonet variant (only suitable for the D0-Linocur) with sealing hole, without test hole



Size	Rated current in A	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	63	01715.700000	K1015206J	**01715.700000**	78	12	10

Screw cap insertion tool for D0-LINOCUR
suitable for the bayonet-type screw cap of the D0-Linocur and the E18 screw cap of the previous Linocur generation



Size	Variant	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	without bottle opener	01716.000000	X222936A	**01716.000000**	78	20	1
D02	with bottle opener	01716.333000	F200726A	**01716.333000**	78	30	1

Reduction spring
for the use of D01 fuse-links in the bajonet screw-cap of the Linocur



Size	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D01	01713.700000	-	**01713.700000**	78	1	10

Locking cap for D0-Linocur
Insulating material, bayonet variant (only suitable for the D0-Linocur) for locking the D0-Linocur (with industrial locking wrench)

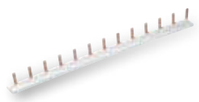
Size	Rated current in A	Variant	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D02	63	Industrial	01715.710000	L1015207J	**01715.710000**	78	6.5	10

Locking wrench
suitable for the D0-Linocur's bayonet-type locking cap and for other industrial D and D0 locking caps



Size	Variant	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
D0	Industrial	01714.830000	J214069J	**01714.830000**	47	40	50

Wiring rails
Pin-type variant for D0-LINOCUR
The user cuts these wiring rails to the required length. End caps are used to insulate the unprotected ends.





Division distance in mm	Cross-section in mm²	Length in mm	1-pole circuits	Suitable end cap	Replaces in old system	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
1-pole, with insulation, angled at 90°											
27	16	1000	37	A11	–	02963.000000	M215107P	**02963.000000**	89	192	50

Division distance in mm	Cross-section in mm²	Length in mm	3-pole circuits	Suitable end cap	Replaces in old system	Catalogue number	Reference number	Item number	Item group	Weight in g/part	PU
3-pole, with insulation											
27	16	1000	13	A5	02963.003000	22963.003000	K302873L	**22963.003000**	89	609	20
27	35	1000	13	A26	02963.363000	22963.363000	L302874J	**22963.363000**	89	1241	10



Division distance in mm	Cross-section in mm²	Length in mm	3-pole circuits	Suitable end cap	Replaces in old system	Catalogue number	Reference number	**Item number**	Item group	Weight in g/part	PU
3-pole connector with insulation,; special design for connection of Linocur (27 mm width) with miniature circuit breakers (18 mm width)											
27/17,8	16	140	1+1	already mounted	–	02923.109156	D302890J	**02923.109156**	89	68.5	10

End caps for wiring rails

End caps are used to insulate the open ends of wiring rails. They are not needed for Eurovario rails.



Variant		Catalogue number	Reference number	**Item number**	Item group	Weight in g/part	PU
End cap A11	for rails, 1-pole	02901.000000	E302891J	**02901.000000**	89	0,1	10
End cap A5	for rails, 3-pole, 10 and 16 mm², L-shaped	02903.165000	G302893J	**02903.165000**	89	1	10
End cap A26	for rails, 3-pole, 35 mm²	02903.350000	R302902J	**02903.350000**	89	1.2	10

Eurovario wiring rails for D0-LINOCUR

Eurovario wiring rails have a fixed length and may not be cut. End caps are therefore not needed.



Division distance in mm	Cross-section in mm²	Length in mm	3-pole circuits	Suitable end cap	Replaces in old system	Catalogue number	Reference number	**Item number**	Item group	Weight in g/part	PU
3-pole, with insulation											
27	10	159	2	*	–	02913.102159	Q302878J	**02913.102159**	89	46	10
27	16	159	2	*	–	02913.162159	R302879J	**02913.162159**	89	68	10
27	10	243	3	*	–	02913.102243	S302880J	**02913.102243**	89	80	10
27	16	243	3	*	–	02913.162243	T302881J	**02913.162243**	89	114	10

*Comment: Eurovario wiring rails do not need any end caps

Connecting terminal 50 mm²

If the 35 mm² rail 22963.363000 is used then the infeed terminal is required (see "Example rail configurations")



Variant	Cross-section in mm²	Catalogue number	Reference number	**Item number**	Item group	Weight in g/part	PU
insulated, long	50	02993.100000	V1007924J	**02993.100000**	89	35	10

D0-LINOCUR monitoring devices

For all Linocur variants
Depending on the type, closes a galvanically isolated contact to indicate
- the switch position (deactivation)
- fuse deactivation
- the switch position (deactivation) plus fuse deactivation



Variant	Description	Subdivisions	Wiring cross-section max. in mm²	Catalogue number	Reference number	**Item number**	Item group	Weight in g/part	PU
Type 1	for switch position	1.5	1.5	05860.100000	G1015203A	**05860.100000**	78		1
Type 2	for fuse deactivation	1.5	1.5	05860.200000	H1015204A	**05860.200000**	78		1
Type 3	for switch position and fuse deactivation	1.5	1.5	05860.300000	J1015205A	**05860.300000**	78		1

Miniature circuit breakers for Neozed fuses

D02, 63 A, ~230/400 V (~250/440 V)

Compliant with

DIN VDE 0638
EN 60947-3
DIN VDE 0660 Part 107
IEC 60947-3
BGV A3

Certifications

Germany

Austria

Bureau Veritas

Germanischer Lloyd

British Lloyd's Register of Shipping

General product description

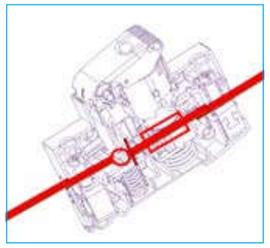
The D0-LINOCUR is a combination of miniature circuit breaker and NEOZED 63 A fuse link, equipped with significant safety characteristics and sophisticated switching and terminal technology.

The safest operating principles

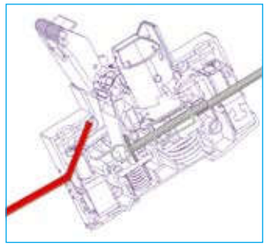
- Separate arrangement of switch and fuse
- Optimum switch response and contact making
- Spring-mounted switch mechanism
- Rated short-circuit switching capability 50 kA
- Non-manual activation
- Contacting of fuse with screw cap
- Minimum transition resistances due to maximized contact pressure
- Bayonet-type screw cap with defined, clearly visible start and end position

Principle of switching operation

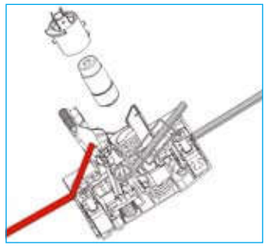
Switching status "ON"
NEOZED fuse link with firm contact, miniature circuit breaker closed



Switching status "OFF"
Miniature circuit breaker open,
Fuse link disconnected from lower terminal



Switching status "OFF and fuse link removed"
No voltage inside the unit since the fuse link is disconnected from the lower terminal by the switch. The contact for the bayonet screw cap cannot be touched.



The LINOCUR offers outstanding safety and ease of use

The power output from the NEOZED fuse links leads to a high level of internal heating in the LINOCUR device.
To prevent the device from overheating and avoid the unwanted, premature triggering of the fuse link it is necessary to implement special design measures in this type of compact device.

Heating is reduced thanks to
- **generously sized, solid copper strip conductors**
- **highly sprung foot contact**
- **wide area of heat transfer through contact with the screw cap**
- **wide area of contact at the foot contact**
- **special contacts which share functions**

Special high temperature-resistant materials guarantee safe operation even in the case of high thermal stresses due to overloads and short-circuits, high ambient temperatures or the mounting of multiple devices next to one another.

Plastic material:
- **housing with excellent thermal properties**
- **self-extinguishing, UL listed, halogen-free**

Switch mechanism:
- **Spring-mounted switching response on activation**
- **Low transition resistances and long service life due to contacts which share functions at the level of the switch contacts**
  (Arcing contacts made of arcing and fusion-resistant material to eliminate arcing) and main contacts (low-resistance, conductive contacts)

New bayonet-type Linocur screw cap

The new Linocur is the first to possess a bayonet-type screw cap. This new screw cap has enormous advantages compared to conventional caps with Edison thread:

- only a 90° rotation required to screw in or out
- the screw cap has a defined start and end position
- no need to "search" for the start of the thread
- correct end position of screw cap is clearly visible
- considerable time savings when inserting or replacing fuse links

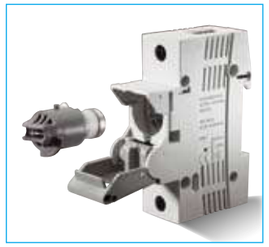
Bayonet-type screw cap and fuse link



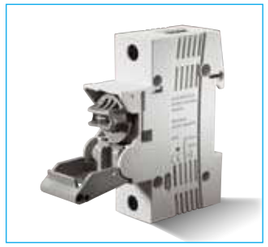
Bayonet-type screw cap with inserted fuse link



Screw cap screwed out



Start position for the insertion of the screw cap



End position after insertion, screw cap screwed in



Closing the switch
A tool is available for screwing in the screw cap.

Screw cap insertion tool
01716.000000



The Linocur can be locked using special insulating screw caps. A conventional industrial locking wrench should be used to handle the locking caps.

Linocur locking cap
01715.710000



Industrial locking wrench
01714.830000



Connecting terminals

Different conductor cross-sections and types can be connected without difficulty on both the input and output sides

Divided connecting terminal for connecting two wires



1. flexible wiring with conductor end sleeves	
two wires of same cross-section:	up to max. 16 mm²
two different wires:	25 mm² and max. 6 mm²
	35 mm² and max. 4 mm²
with paired conductor end sleeves:	up to max. 16 mm²
2. flexible, thin-wire wires without conductor end sleeves	
two wires of same cross-section:	up to max. 16 mm²
two different wires:	25 mm² and max. 16 mm²
	35 mm² and max. 10 mm²
3. short-circuit resistant wires:	
two wires of same cross-section:	up to max. 6 mm²
Maximum connection cross-section of input and output terminal: 35 mm²	

LINOCUR for DC voltages

The 1, 2 and 3-pole devices are labelled ~400 V.
However, in usage category DC 22 B, these can be used at up to -65 V per pole, i.e. 2-pole devices up to -130 V.

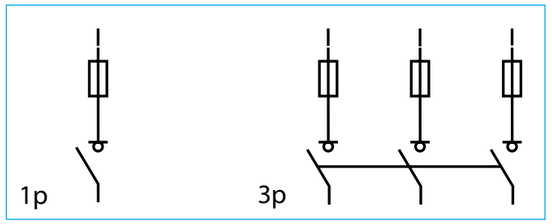
The 4-pole LINOCUR can be used up to -220 V (DC 22 B) and is therefore labelled -220 V. This device is not permitted for applications in AC voltage systems.

All the poles must be connected in series. In this case, it does not matter whether the LINOCUR poles are installed in the positive wire, negative wire or are distributed across the two. The 1+N and 3+N variants are not suitable for DC voltage application (N pole both leading and lagging).

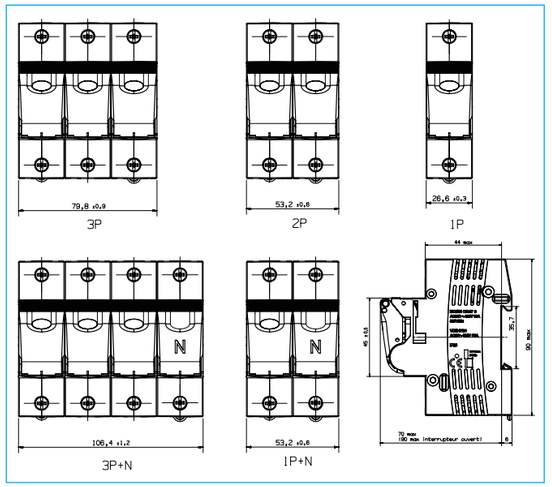
LINOCUR D02 · Specifications

Miniature circuit breaker for NEOZED D02 fuse links, LINOCUR in accordance with DIN VDE 0660 Part 107,63 A, ~400 V, AC 22 B, single-pole (1+N, 2-pole, 3-pole, 3+N), safety contact assured by screw cap, with spring-mounted switch mechanism and dual-function terminals on both sides, suitable for infeed on either side, DC switching response DC 22 B at 65 V/pole.

Circuit symbols



Dimensional drawing
D0-LINOCUR miniature circuit breaker D02, ~400 V

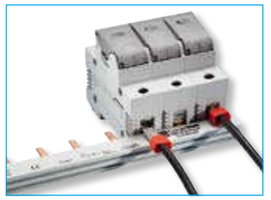


Technical data

Classification:	Miniature circuit breaker for fuses in accordance with DIN VDE 0660 Part 107
Applicable regulations	DIN VDE 0660 Part 107, EN 60947, IEC 60947-3, DIN VDE 0636 Part 3, IEC 60269-3, DIN VDE 0638, DIN VDE 43880
Dimensions	D02
Number of poles	1, 2, 3-pole 2-pole (1 +N), 4-pole (3+N)
Operating classes	gL-gG, aM, gR only with limitations
Rated current I_N	2–63 A
Rated voltage U_N	1-pole: ~230 V 2, 3, 4-pole: ~400 V Shipbuilding: ~440 V per pole: ~65 V
Nominal frequency	50–60 Hz
Rated short-circuit switching capacity	50 kA
Utilization category	AC 22 B DC 22 B/ ~65 V/pole AC 23 B/ ~400 V 50 A AC 23 B/ ~440 V 35 A
Connection types/ cross-sections	Double terminal 35 mm²both sides Touchproof covering in accordance with BGV A2 M5 Pozidrive screws Torque 3.5 Nm
Foolproofing	Uses commercially available adjusting rings as per VDE 0636-3
Infeed	As required, from above or below, total touchproofing guaranteed, even during the replacement of fuse links
Protection	IP 20
Fixing type	Snap-on fixing to mounting rail in accordance with DIN EN 60715 locking snap-on device using adapter on bus bar system
Materials	Shockproof insulating material Insulating material RAL 7035 self-extinguishing, halogen-free
Contact protection	in accordance with DIN VDE 0106 Part 100, BGV A2

Notes on using wiring rails

Pin-type wiring rails are suitable for the wiring of D0 Linocur miniature circuit breakers. The D0-Linocur can engage with the wiring rail in the lower part of the shared box terminals and connect to the infeed wire in the upper part.
This arrangement means that the point of infeed is always visible and wiring can be performed easily and safely.



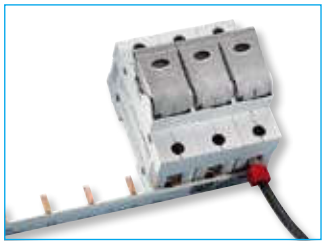
The maximum current-carrying capacity of the wiring rail is reached when the infeed is supplied in the middle of the wiring rail. Wiring rails can be cut to the required length. The use of end caps guarantees optimum protection against contact and prevents flashover at the ends of the rail. Eurovario rails have all-round insulation. They are supplied in a fixed length and cannot be cut

Technical data			
Single-phase wiring			
Rail cross-section	10 mm²	16 mm²	35 mm²
Max. current on rail	63 A	80 A	125 A
Max. supply current with central supply	100 A	120 A	210 A
Multiphase wiring			
Rail cross-section	10 mm²	16 mm²	36 mm²
Max. current on rail	63 A	80 A	125 A
Max. supply current with central supply	100 A	120 A	160 A

Rated voltage	400 V
High voltage strength	to 3 kV
Short-circuit strength	to 25 kA
Compliant with	VDE 0606/9.77
Rail material	Copper SF-Cu
Insulating profile material	high temperature-resistant, flameproof self-extinguishing, halogen-free

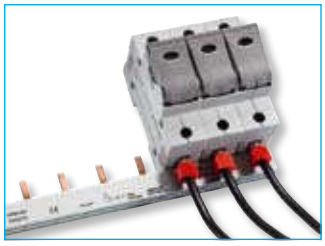
Example rail configurations

D02 Linocur, single-pole



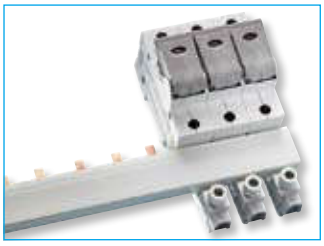
Rail configuration	1-pole, insulated	
Item number Product	**05861.063000**	similar configuration possible for 05861.020000, 05861.025000, 05861.035000, 05861.050000. Rail connection is also possible at the Linocur's upper terminals since infeed can be supplied on either side.
Item number Wiring rail	**02963.000000**	
Rail cross-section	16 mm^2	
Terminal	–	Once the Linocur is equipped with a dual-function terminal, no additional infeed terminal is required.

D02 Linocur, three-pole



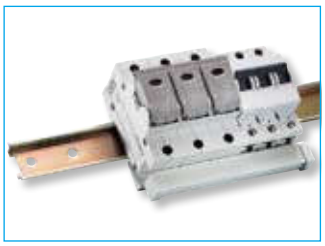
Rail configuration	3-pole, insulated	
Item number Product	**05863.063000**	similar configuration possible for 05863.020000, 05863.025000, 05863.035000, 05863.050000. Rail connection is also possible at the Linocur's upper terminals since infeed can be supplied on either side.
Item number Wiring rail	**22963.003000**	similar configuration possible using Eurovario rails 02923.102159 (10 mm^2), 02923.162159 (16 mm^2), 02923.102243 (10 mm^2), 02923.162243 (16 mm^2)
Rail cross-section	16 mm^2	
Terminal	–	Once the Linocur is equipped with a dual-function terminal, no additional infeed terminal is required.

D02 Linocur, three-pole, rail configuration with 35 mm^2



Rail configuration	3-pole, insulated	
Item number Product	**05863.063000**	similar configuration possible for 05863.020000, 05863.025000, 05863.035000, 05863.050000. Rail connection is also possible at the Linocur's upper terminals since infeed can be supplied on either side.
Item number Wiring rail	**22963.363000**	
Rail cross-section	35 mm^2	
Item number Terminal	**02993.100000**	

D02 Linocur, three-pole, rail configuration with miniature circuit breakers



Rail configuration	3-pole, insulated	
Item number Product	**05863.063000**	similar configuration possible for 05863.020000, 05863.025000, 05863.035000, 05863.050000.
Item number Wiring rail	**02923.109156**	
Rail cross-section	10 mm^2	
Terminal	–	In this case, the Linocur is used as a series fuse for the miniature circuit breaker. Infeed is supplied at the Linocur's upper terminals.

Linocur monitoring devices

Three types are available.





Type 1: Monitoring device for switch position
Type 2: Monitoring device for switch deactivation
Type 3: Monitoring device for switch position and fuse deactivation

The monitoring devices can be used with all Linocur types. The devices are mounted to the right of the Linocur using the supplied clips. They are connected externally in parallel to the Linocur.

The relay output contact closes (depending on type) if
- the Linocur switch is manually deactivated (type 1)
- at least one fuse in the device disconnects (type 2)
- the Linocur switch is manually deactivated, or at least one fuse in the device disconnects (type 3)

The relay output contact is galvanically isolated from the device.

The monitoring devices do not require any power supply. Power is supplied to them by the Linocur (from the lower connecting terminals).

If infeed is supplied to the Linocur from below then the lower Linocur terminals are connected to the lower terminals of the monitoring device and the upper Linocur terminals are connected to the upper monitoring device terminals.

If infeed is supplied to the Linocur from above then the terminal connections are crossed over: the lower Linocur terminals are connected to the upper monitoring device terminals and the upper Linocurterminals are connected to the lower monitoring device terminals.