wöhner
ALLES MIT SPANNUNG

ULTRA SMALL

MOTUS®ContactronControl.
Less is more.

MOTUS® Less is more.
Less wear, longer lifespan.

Learn more about
MOTUS® at our website.

Our Company. Page 4.

For more than 80 years, Wöhner has stood for innovative technology in the field of electrical energy. We are developing things today that will make our lives safer and more comfortable in the future.

MOTUS®ContactronControl. Page 6.

MOTUS® is opening up completely new perspectives in control technology and machine construction. Our latest development, with which we are breaking new ground.

SmartWire-DT™. Page 12.

MOTUS® can be optionally equipped with the SmartWire-DT™ bus system. This provides important on-going operational information at all times. We think this is the intelligent way to connect devices.

Electrifying.
A company writes history.

The distribution and control of electrical energy is our passion. Founded in 1929 as a family company, Wöhner today has 10 subsidiaries through which we serve customers in almost 80 countries around the world. Our innovative energy has made us well-known in the development of trend-setting technologies in electrical engineering. The consistently maintained systems concept in the Wöhner product portfolio has set new standards in many parts of the world. Most recently, our CrossLink® technology has caused quite a stir. It provides variation for different applications and standards. The CrossLink® technology improves the availability and safety of systems.

Wöhner is continuously developing reliable, future-orientated solutions. We'd like to present you with our latest innovation. A milestone, if we may say so: MOTUS®ContactronControl.

MOTUS®ContactronControl.
Does more than all the rest.

Small drives and motors with a power output of up to 4kW are frequently used in control technology and machine design. In the process, sometimes both rotational directions (forward/reverse) need to be controlled and the drives have to be protected against possible errors. Also, it must be ensured that they can be reliably and safely shut off through an external Emergency Stop function in the event of a breakdown.

A product which combines these four important requirements into one device is the MOTUS®ContactronControl. An innovation that can be used on busbars as well as on DIN rails. But we haven't even come close to describing all the advantages of the new MOTUS®ContactronControl.

HIGH SPEED

MOTUS® Less is more.
Less work, more time savings.

These are your advantages.
MOTUS®ContactronControl.

The MOTUS®ContactronControl is an extraordinarily durable innovation due to its hybrid switching technology, resulting in a smooth switching functionality. The built-in semiconductor switches without wear. The continuous current is carried by a mechanical contact. This keeps the load on the mechanical switching element extremely low, allowing the size of the relay to be considerably reduced. The combination of overload, short-circuit and safety functionality, integrated into a single device, also guarantees minimal connection effort. These characteristics make the MOTUS®ContactronControl a very special product.

In Overview.
MOTUS®ContactronControl.

Lifespan

The combination of robust relay technology and frictionless semiconductor switching gives the MOTUS®ContactronControl a product lifespan that is 10 times longer than conventional contactors.

Time savings

The significant reduction in wiring requirements during the installation of a MOTUS®ContactronControl results in time savings of up to 75% compared to conventional device combinations.

Space savings

Due to its very narrow design (width: 22.5mm), use of the MOTUS®ContactronControl can deliver space savings of up to 75% compared to conventional starter combinations.

Figure shows original size (22.5mm x 160mm)

Lifespan
MOTUS®ContactronControl compared to conventional contactors.

The low-friction hybrid switching technology of the MOTUS®ContactronControl provides a smooth switching functionality. Thus, the hybrid motor starter can facilitate 10 times the switching frequency.

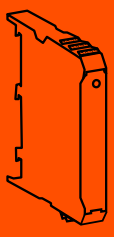
Conventional switching

Contactor

Wear during switching

3 million switching operations

MOTUS®ContactronControl:



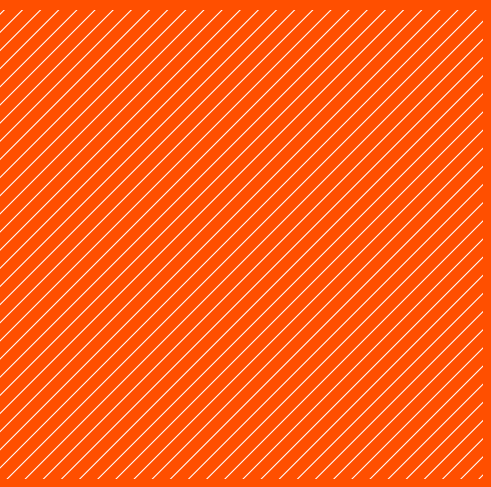
MOTUS®

Low wear thanks to hybrid technology

30 million switching operations

Space savings
MOTUS®ContactronControl compared to conventional reversing starters.

The extraordinarily narrow design width of 22.5mm is easy to see. Where as six highly-functional MOTUS® can be installed here, in the past there was only enough space for one-and-a-half conventional reversing starter combinations.

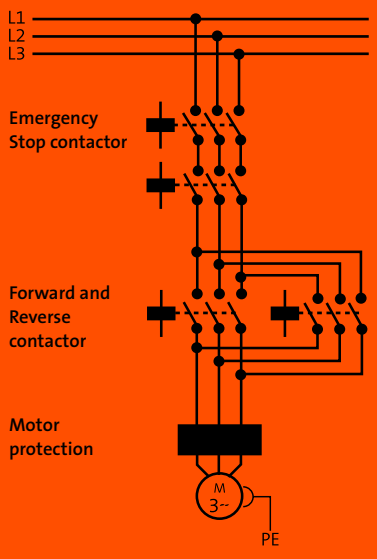


Effective space savings

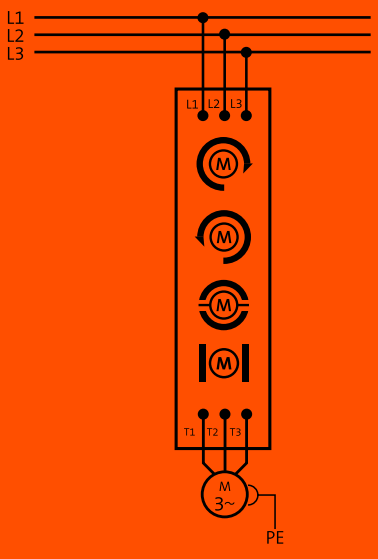
Time savings
MOTUS®ContactronControl compared to conventional device combinations.

The wiring of individual components in reversing starter combinations and other functional units is sometimes very expensive and time-intensive. With MOTUS®, installation time is reduced by up to 75%. In the busbar designs with CrossLink® adapter, input wiring is no longer necessary.

Wiring of conventional designs:



Wiring of the MOTUS® design:



Design versions.
A MOTUS® for all cases.

The MOTUS® relies on CrossLink® Technology. The device is supplied with an adapter for the 60mm-System compact, for the 60mm-System classic or for DIN rail mounting. With all versions, the contacts of the CrossLink® adapter remain covered to protect them from being touched when the Electronics module device is removed. **MOTUS® is certified by UL.** The requirements for the North American market are met. **MOTUS® is flexible.** We offer three current designs in a range from 0.075A to 9A. The devices can be finely adjusted within each of these ranges. **MOTUS® is safe.** In case of an overload or short-circuit, the built-in electronics safely shut down. In special fault causes, the integrated fuses provide additional protection: The fuses are simply replaced and the device is ready to go again.

The 4 primary functions

Forward-rotation:
Control is effected simply through a 24 VDC signal.

Reverse-rotation:
The reversing function includes an interlock circuit and load wiring.

Motor protection:
The motor protection relay provides convenient protection with its automatic mode and remote reset.

Emergency Stop:
The integrated safety function allows use in safety-related applications.

CrossLink® TECHNOLOGY

60mm-System compact

- MOTUS®ContactronControl on a 160mm long CrossLink® busbar adapter, for 12x5mm and 12x10mm busbars
- The MOTUS®ContactronControl can be easily used in combination with larger switching devices through the use of the busbar system
- Power is fed through the busbar system
- The CrossLink® busbar adapter means that the busbar system remains covered and safe from being touched when the MOTUS® device is removed

60mm-System classic

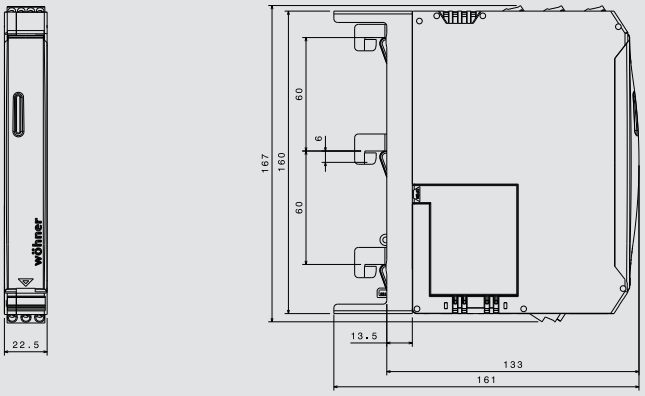
- MOTUS®ContactronControl on a 200mm long CrossLink® busbar adapter, for 12x5mm to 30x10mm busbars, double-T and triple-T sections
- The MOTUS®ContactronControl can be easily used in combination with larger switching devices through the use of the busbar system
- Power is fed through the busbar system
- The CrossLink® busbar adapter means that the busbar system remains covered and safe from being touched when the MOTUS® device is removed

DIN rail mounting

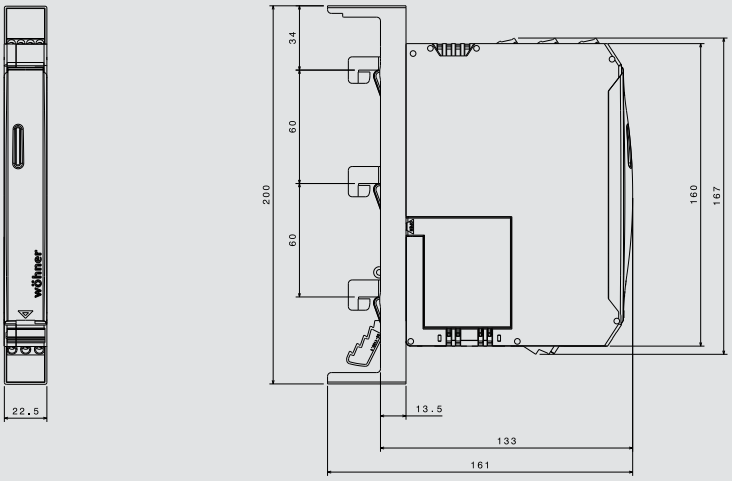
- MOTUS®ContactronControl on CrossLink®connection adapters for DIN rail mounting according to DIN EN 60715
- Power is fed via the connection through the mounting rail adapter, cross-sectional connection area up to 6mm^2
- Multiple rail mounting devices can be mounted in series next to one another. Power is supplied through a plug connector with cable connections for up to four devices

60mm System and rail mounting.
Dimensional drawings.

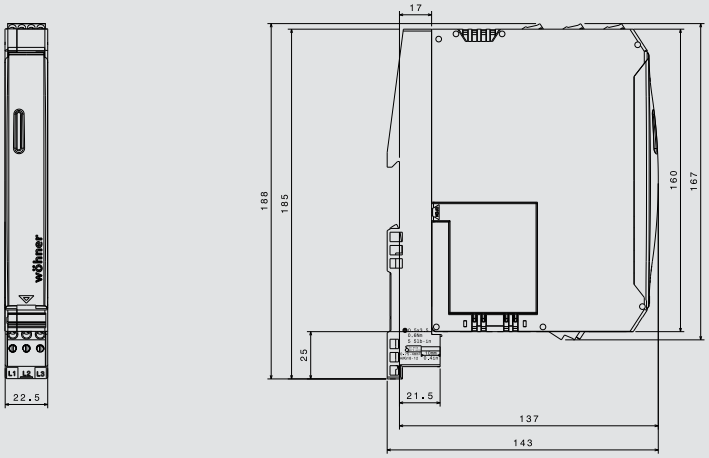
60mm-System compact



60mm-System classic



DIN rail mounting



Technical Data.
MOTUS®ContactronControl.

Versions	max. 0.6A	max. 2.4A	max. 9A
Input data			
Rated control supply voltage Us according to IEC 60947-1 / UL 508	24V DC (min. 19.2V / max. 30V)		
Output data			
Switching principle	Safety output stage with bypass, three-phase electrically isolated switch-off		
Rated operating voltage U_e according to IEC 60947-1	500V AC (50/60Hz)		
Operating voltage range according to IEC 60947-1 Operating voltage range according according to UL 508	42–550 V AC 42–500 V AC		
Load current at 20°C	0.075–0.6A	0.18–2.4A	1.5–9A
Rated operating current Ie according to IEC 60947-1 AC-51 according to IEC 60947-4-3 AC-53a according to IEC 60947-4-2 according to UL 508	 0.6A 0.6A 0.6A	 2.4A 2.4A 2.4A	 9A 6.5A 6.5A
Output signal			
Contact version	Single contact, 1 changeover contact		
Max. switching voltage	30V AC / 36V DC		
Max. continuous load current I_0	50mA		
Monitoring			
Symmetry monitoring	integrated		
Phase failure monitoring	integrated		
General data			
Power loss, min. / max.	0.88W / 2.8W	0.88W / 5.5W	0.88 W / 12W
Max. switching frequency (pulse/pause times 50:50)	2Hz		
Rated surge voltage	6kV		
Ambient temperature range Operation Ambient temperature range Storage	–25°C to +70°C –40°C to +80°C		
Overvoltage category	III		
Degree of contamination	2		
Lifespan	3×10^7 switching operations		
Type of protection	IP20		
Fuses used	16A–10 × 38 gR Allocation type 2, 500V, 10 kA		20A–10 × 38 gR Allocation type 2, 400 V, 5 kA
Connection ratings (conductor cross section) Screw terminals (re, f, f +AE) / thread M3, recommended tightening torque	0.14–2.5mm² (AWG 26–14) / 0.5–0.6Nm The cable outlet is provided with a pluggable terminal		
Certifications			
UL	cULus listed according to UL 508A (SCCR 100kA)		
IEC	IEC 60947-4-2		
Safety functions			
Safe switch-off	IEC 61508-1: SIL 3 ISO 13849-1: category 3 PL e EN954-1: category 3		
Motor protection	IEC 61508-1: SIL 2		

Additional technical data and general technical information are available at www.woehner.de

SmartWire-DT™ with MOTUS®.
Accessible at all times. Worldwide.

In order to couple energy distribution and information exchange together, the MOTUS®ContactronControl can optionally be provided with a pluggable SmartWire-DT™ bus-module. This allows you to access power reserves and increase the safety of the system. Important energy parameters are recorded, evaluated and processed in a timely manner both locally and at the central location. Powerful gateways allow this to be done from any location in the world. SmartWire-DT™ also facilitates direct access – as required: Necessary reactions in the distribution can be undertaken through bus technology. The control panel is designed more efficiently. This is because the use of SmartWire-DT™ leads to a considerable reduction in wiring requirements. Thus, control panels are not only tidier, they are also more compact. Less wiring means less risk of error.

SmartWire-DT™ with MOTUS®.
It doesn’t get any simpler.

SmartWire-DT™
The easy way to connect

SmartWire-DT™ is a trademark of Eaton Corporation

Simple connection.

1

Place the eight-pin flat cable into the device plug and lock in position.

2

Position the device plug as you like and fix it in place by applying light pressure.

3

Contact the device plug and the flat cable using pliers.

SmartWire-DT™ components.
You don’t need anything else.

Bus module

Gateway

Power feed

SmartWire-DT™ components	Pack size	Weight kg/100 units
Gateway and Powerfeed		
SmartWire-DT™-Profibus DP	1	16.0
SmartWire-DT™-CAN-open	1	16.0
SmartWire-DT™-Ethernet IP	1	16.0
SmartWire-DT™-Powerfeed	1	17.0
Bus module SmartWire-DT™		
Set consisting of: connector, electronics module and SmartWire-DT™ plug (for MOTUS®ContactronControl)	1	10.0

Device plug

Flat cable

Pliers for device plug

SmartWire-DT™ components	Pack size	Weight kg/100 units
Bus line and plug		
Ribbon cable, 8-pole	1	60.0
SmartWire-DT™-device plug	10	5.5
SmartWire-DT™-flat plug	10	0.5
Network termination for 8-pole ribbon cable	1	1.0
Crimping tools		
Pliers for device plug	1	62.0
Pliers for flat plug (bus termination, gateway)	1	62.0

Ordering data.
MOTUS®ContactronControl.

MOTUS®ContactronControl, direct starter and changeover starter	Pack size	Weight kg/100 units	Price €/unit	Part no.
for 60mm-System compact, for 12 x 5mm and 12 x 10mm busbars				
Version 0.075–0.6A	1	34.0	*	36 101
Version 0.18–2.4A	1	34.0	*	36 104
Version 1.5–9A	1	34.0	*	36 107
for 60mm-System classic, for 12 x 5mm – 30 x 10mm busbars, double-T and triple-T section				
Version 0.075–0.6A	1	34.7	*	36 102
Version 0.18–2.4A	1	34.7	*	36 105
Version 1.5–9A	1	34.7	*	36 108
for DIN rail mounting, according to DIN EN 60715				
Version 0.075–0.6A	1	34.9	*	36 100
Version 0.18–2.4A	1	34.9	*	36 103
Version 1.5–9A	1	34.9	*	36 106
Connecting plug with cable connection, according to UL for single application	1	6.9	*	36 901
Accessories				
Connecting plug with cable connection, 2 users	1	7.6	*	36 902
Connecting plug with cable connection, 3 users	1	8.3	*	36 903
Connecting plug with cable connection, 4 users	1	10.0	*	36 904
Replacement components				
Fuse 16 A for part no.: 36 101, 36 104, 36 102, 36 105, 36 100 and 36 103	3	0.9	*	31 567
Fuse 20 A for part no.: 36 107, 36 108 and 36 106	3	0.9	*	31 568
Fuse 30 A for part no.: 36 107, 36 108 and 36 106 for motors with heavy-duty starting	3	0.9	*	31 569
Electronics module 0.075-0.6A, direct starter and changeover starter	1	29.2	*	36 109
Electronics module 0.18-2.4A, direct starter and changeover starter	1	29.2	*	36 110
Electronics module 1.5-9A, direct starter and changeover starter	1	29.2	*	36 111
Adapter for 60mm-System compact	1	4.7	*	36 113
Adapter for 60mm-System classic	1	5.5	*	36 114
Adapter DIN rail mounting	1	5.7	*	36 112

* Price on request.

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