

Bus module MBK

Thanks to its compact construction, the bus module MBK (IP20) can be easily mounted in shallow control panels, terminal boxes and distribution boxes.

The simple construction with the lowest possible plug connections (only field bus and I/O level) makes the system very reliable.

Mounting

The units can be DIN-rail mounted or screwed to the back plate.

Plug in connection technology

The connection is via screw or spring clamp plug in terminals, which allows for a fast module change. Coding prevents a mix up in the terminal rows. An extension unit (with 1 or 2 rows of common terminals) can be fitted to the front of the MBK, making additional terminals for 3 or 4 wire sensor connection unnecessary.

Diagnostics

The extensive use of LEDs on the module or over the field bus to the master helps diagnose and locate faults.

Overload protection

All outputs and sensor supplies are short-circuit and overload protected.

Galvanic separation

All the inputs and outputs are optically isolated from the field bus. The separate connections of bus nodes and I/O-sector make it easy, to realize Emergency OFF circuits.

Labelling

The large exchangeable label strip for the signals and the module can be labelled manually, or with a printer or plotter.

Open bus system

Murrelektronik supports both Profibus-DP and Interbus with the product range MBK.

Module range

The wide range of modules has been designed to cover most industrial applications.

Certification

All units are certified for respective bus system. The modules also work with modules from other bus module manufactures.



MBK-P

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- DI32
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- DO16/2 A
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Compact I/O modules (IP20)

Bus module MBK
Profibus-DP

Input module

IP20 Protection

MBK-P

16 digital inputs

MBK-P

32 digital inputs



Ordering data		Art.-No.	Art.-No.
Inputs		55400	55401
Screw terminal block	Set: 3 pieces	55420	55440
Spring clamp terminal block	Set: 3 pieces	55421	55441
General data			
Temperature range		0...+55 °C	
Mounting method		DIN-rail mounting to EN 50022, or screw fixing	
Dimensions	H x W x D	155 x 130 x 51 mm	
Technical data	Field bus		
Supply		24 V DC (18...30,2 V), to EN 61131-2, < 100 mA	
Type		Profibus-DP Slave	
Transfer protocol		Profibus-DP to DIN EN 50170	
Modes		Freeze-Mode are supported	
Transfer speed		to 12 MBit/s	
Addressing		BCD rotary switch, 3...99	
Technical data	Inputs		
Type		1, 2, 3 or 4-wire, IEC 1131-2 conform	
Supply		24 V DC (18...30,2 V), to EN 61131-2, < 1,6 A short-circuit protected	
LED indicator		one LED for each input, integrated in the label	
Diagnostics			
Field bus		RUN-LED	
Under voltage		LED and alarm to master	
Short-circuit sensor		LED and alarm to master	
Accessories		Art.-No.	
Handbook German		disk 3,5"	55448
Handbook English		disk 3,5"	55449
GSD/Type data		disk 3,5"	55246
Bus connector		to 12 MBit/s with switchable bus termination resistor	55762
Bus connector		to 12 MBit/s with switchable bus termination resistor and additional PG socket	55766
Profibus cable		per meter (1m)	55770
Common screw terminal		1 row Art.-No. 55422 / 2 row Art.-No. 55423 / 3 row Art.-No. 55424	
Common spring clamp terminal		1 row Art.-No. 55426 / 2 row Art.-No. 55427 / 3 row Art.-No. 55428	

Notes

Wiring and dimension diagrams can be found on page 2.3.8

Compact I/O modules (IP20)

Bus module MBK
Profibus-DP

Output module

IP20 Protection

MBK-P DO16/0.5 A
16 digital output 0,5 A

MBK-P DO16/2 A
16 digital output 2 A



Ordering data		Art.-No.	Art.-No.
Outputs		55402	55403
Screw terminal block	Set: 3 pieces	55435	55430
Spring clamp terminal block	Set: 3 pieces	55438	55431
General data			
Temperature range		0...+55 °C	
Mounting method		DIN-rail mounting to DIN EN 50022, or screw fixing	
Dimensions	H x W x D	155 x 130 x 51 mm	
Technical data		Field bus	
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, < 100 mA	
Type		Profibus-DP Slave	
Transfer protocol		Profibus-DP to DIN EN 50170	
Modes		Sync-Mode are supported	
Transfer speed		to 12 MBit/s	
Addressing		BCD rotary switch, 3...99	
Technical data		Outputs	
Type		p-switching, 2- or 3 wire connection	
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, $I_{\Sigma} \leq 8$ A	24 V DC (18...30,2 V), to DIN EN 61131-2, $I_{\Sigma} \leq 32$ A
Switching current		0,5 A per output, short-circuit and overload protected	2 A per output, short-circuit and overload protected
Filament lamp load		2 W per output	10 W per output
Max switching frequency		at ohmic: 100 Hz; inductive load: 1...4 Hz (dependent on current load per output)	
LED indicator		one LED for each input	
Diagnostics			
Field bus		RUN-LED in the label	
Under voltage		LED and alarm to master	
Short-circuit output		LED and alarm to master, each channel individually	
Accessories		Art.-No.	
Handbook German		disk 3,5"	55448
Handbook English		disk 3,5"	55449
GSD/Type data		disk 3,5"	55246
Bus connector		to 12 MBit/s with switchable bus termination resistor	55762
Bus connector		to 12 MBit/s with switchable bus termination resistor and additional PG socket	55766
Profibus cable		per meter (1m)	55770

Notes	Wiring and dimension diagrams can be found on page 2.3.8
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Compact I/O modules (IP20)

Bus module MBK
Profibus-DP

Input/output module

IP20 Protection

MBK-P

16 digital inputs/outputs 0,5 A



Ordering data		Art.-No.
16 digital inputs/outputs 0,5 A		55405
Screw terminal block	Set: 3 pieces	55434
Spring clamp terminal block	Set: 3 pieces	55437
General data		
Temperature range	0...+55 °C	
Mounting method	DIN-rail mounting to EN 50022, or screw fixing	
Dimensions	H x W x D	155 x 130 x 51 mm
Technical data	Field bus	
Supply	24 V DC (18...30,2 V), to DIN EN 61131-2, < 100 mA	
Type	Profibus-DP Slave	
Transfer protocol	Profibus-DP to DIN EN 50170	
Modes	Sync- and Freeze-Mode are supported	
Transfer speed	to 12 MBit/s	
Addressing	BCD rotary switch, 3...99	
Technical data	Inputs	
Type	1, 2, 3 or 4 wire, IEC 1131-2 conform	
Supply	24 V DC (18...30,2 V), to DIN EN 61131-2, < 1,6 A	
LED indicator	one LED for each input	
Technical data	Outputs	
Type	p-switching, 2- or 3 wire connection	
Supply	24 V DC (18...30,2 V), to DIN EN 61131-2, $I_{\Sigma} \leq 8$ A	
Switching current	0,5 A per output, short-circuit and overload protected	
Filament lamp load	2 W per output	
Max switching frequency	at ohmic: 100 Hz; inductive load: 1...4 Hz (dependent on current load per output)	
LED indicator	one LED for each input	
Diagnostics		
Field bus	RUN-LED in the label	
Under voltage	LED and alarm to master	
Short-circuit sensor	LED and alarm to master	
Short-circuit output	LED integrated in the label and combined alarm to the Master	
Accessories		Art.-No.
Handbook German	disk 3,5"	55448
Handbook English	disk 3,5"	55449
GSD/Type data	disk 3,5"	55246
Bus connector	to 12 MBit/s with switchable bus termination resistor	55762
Bus connector	to 12 MBit/s with switchable bus termination resistor and additional PG socket	55766
Profibus cable	per meter (1m)	55770
Common screw terminal	1 row Art.-No. 55422 / 2 row Art.-No. 55423 / 3 row Art.-No. 55424	
Common spring clamp terminal	1 row Art.-No. 55426 / 2 row Art.-No. 55427 / 3 row Art.-No. 55428	

Notes

Wiring and dimension diagrams can be found on page 2.3.8

**Bus module MBK
INTERBUS**

Input module

IP20 Protection

MBK-I

16 digital inputs



MBK-I

32 digital inputs

Ordering data		Art.-No.	Art.-No.
Inputs		55410	55411
Screw terminal block	Set: 3 pieces	55420	55440
Spring clamp terminal block	Set: 3 pieces	55421	55441
General data			
Temperature range		0...+55 °C	
Mounting method		DIN-rail mounting to EN 50022, or screw fixing	
Dimensions	H x W x D	155 x 130 x 51 mm	
Technical data			
Field bus			
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, < 100 mA	
Type		INTERBUS Slave	
Transfer protocol		INTERBUS to DIN EN 50254	
Modes		Freeze-Mode are supported	
Transfer speed		500 kBit/s	
Technical data			
Inputs			
Type		1, 2, 3 or 4 wire, IEC 1131-2 conform	
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, < 1,6 A short-circuit protected	
LED indicator		one LED for each input	
Diagnostics			
Field bus		RUN- LED in the label	
Under voltage		LED and alarm to master	
Short-circuit sensor		LED and alarm to master	
Short-circuit output		LED integrated in the label and combined alarm to the master	
Accessories			Art.-No.
Handbook German			55447
Handbook English			55445
Bus connector set		Sub-D 9-pole each with a field wire male and female	55799
Remote bus cable		manufactured with 2 x Sub-D connector, length 30 cm	55775
Remote bus cable		per meter (1m)	55771
Common screw terminal		1 row Art.-No. 55422 / 2 row Art.-No. 55423 / 3 row Art.-No. 55424	
Common spring clamp terminal		1 row Art.-No. 55426 / 2 row Art.-No. 55427 / 3 row Art.-No. 55428	

Notes

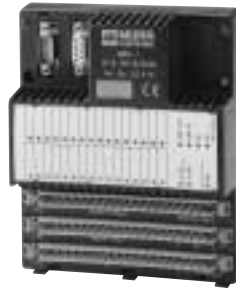
Wiring and dimension diagrams can be found on page 2.3.8

**Bus module MBK
INTERBUS**

MBK-I

Output module

IP20 Protection



Ordering data		Art.-No.
16 digital output 0,5 A		55412
Screw terminal block	Set: 3 pieces	55435
Spring clamp terminal block	Set: 3 pieces	55438
General data		
Temperature range		0...+55 °C
Mounting method		DIN-rail mounting to EN 50022, or screw fixing
Dimensions	H x W x D	155 x 130 x 51 mm
Technical data	Field bus	
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, < 100 mA;
Type		INTERBUS Slave
Transfer protocol		INTERBUS to DIN EN 50254
Modes		Sync-Mode are supported
Transfer speed		500 kBit/s
Technical data	Outputs	
Type		p-switching, 2- or 3 wire connection
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, $I_{\Sigma} \leq 8$ A
Switching current		0,5 A per output, short-circuit and overload protected
Filament lamp load		2 W per output
Max switching frequency		at ohmic: 100 Hz; inductive load: 1...4 Hz (dependent on current load per output)
LED indicator		one LED for each input
Diagnostics		
Field bus		RUN-LED in the label
Under voltage		LED in the label and alarm to master
Short-circuit output		LED in the label and alarm to master and combined alarm to the master, each channel individually
Accessories		Art.-No.
Handbook German		55447
Handbook English		55445
Bus connector set		Sub-D 9-pole each with a field wire male and female 55799
Remote bus cable		manufactured with 2 x Sub-D connector, length 30 cm 55775
Remote bus cable		per meter (1m) 55771

Notes

Wiring and dimension diagrams can be found on page 2.3.8

Compact I/O modules (IP20)

Bus module MBK
INTERBUS

Input/Output module

IP20 Protection

MBK-I

I/O combined and single channels.,
in/outputs 16 bit

MBK-I

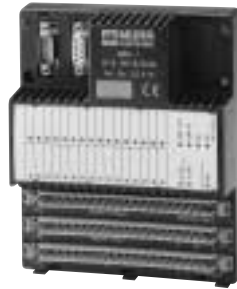
I/O combined and single channels.,
inputs 16 bit, outputs 2x8 bit

MBK-I

I/O combined diagnosis,
inputs 16 bit, outputs 2x8 bit

MBK-I

without I/O diagnosis,
inputs 16 bit, outputs 2x8 bit



Ordering data		Art.-No.	Art.-No.	Art.-No.	Art.-No.
16 digital inputs/outputs 0,5 A		55414	55417	55418	55419
Screw terminal block	Set: 3 pieces	55434	55442	55442	55442
Spring clamp terminal block	Set: 3 pieces	55437	55436	55436	55436
General data					
Temperature range		0...+55 °C			
Mounting method		DIN-rail mounting to EN 50022, or screw fixing			
Dimensions	H x W x D	155 x 130 x 51 mm			
Technical data		Field bus			
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, < 100 mA			
Type		INTERBUS Slave			
Transfer protocol		INTERBUS to DIN EN 50254			
Modes		Sync- and Freeze-Mode are supported			
Transfer speed		500 kBit/s			
Technical data		Inputs			
Type		1, 2, 3 or 4 wire, IEC 1131-2 conform			
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, < 1,6 A short-circuit protected			
LED indicator		one LED for each input			
Technical data		Outputs			
Type		p-switching, 2- or 3 wire connection			
Supply		24 V DC (18...30,2 V), to DIN EN 61131-2, $I_{\Sigma} \leq 8$ A			
Switching current		0,5 A per output, short-circuit and overload protected			
Filament lamp load		2 W per output			
Max switching frequency		at ohmic: 100 Hz; inductive load: 1...4 Hz (dependent on current load per output)			
LED indicator		one LED for each input			
Diagnostics					
Field bus		LEDs in the label			
Under voltage		LED in the label, alarm to master optional			
Short-circuit sensor		LED in the label, combined alarm to master optional			
Short-circuit output		LED in the label, alarm to master optional			
Accessories		Art.-No.			
Handbook German		55447			
Handbook English		55445			
Bus connector set		Sub-D 9-pole each with a field wire male and female			
Remote bus cable		manufactured with 2 x Sub-D connector, length 30 cm			
Remote bus cable		per meter (1m)			
Common screw terminal		1 row Art.-No. 55422 / 2 row Art.-No. 55423 / 3 row Art.-No. 55424			
Common spring clamp terminal		1 row Art.-No. 55426 / 2 row Art.-No. 55427 / 3 row Art.-No. 55428			

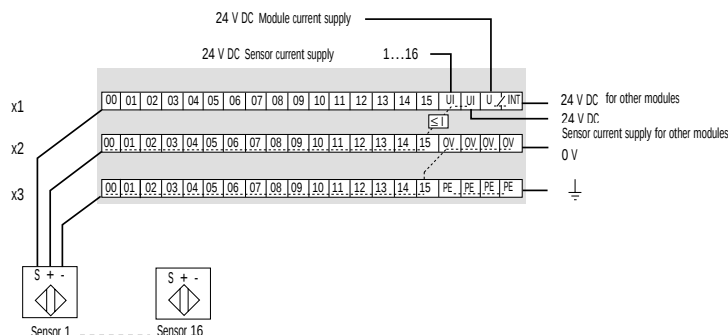
Notes

Wiring and dimension diagrams can be found on page 2.3.8

Connection diagram

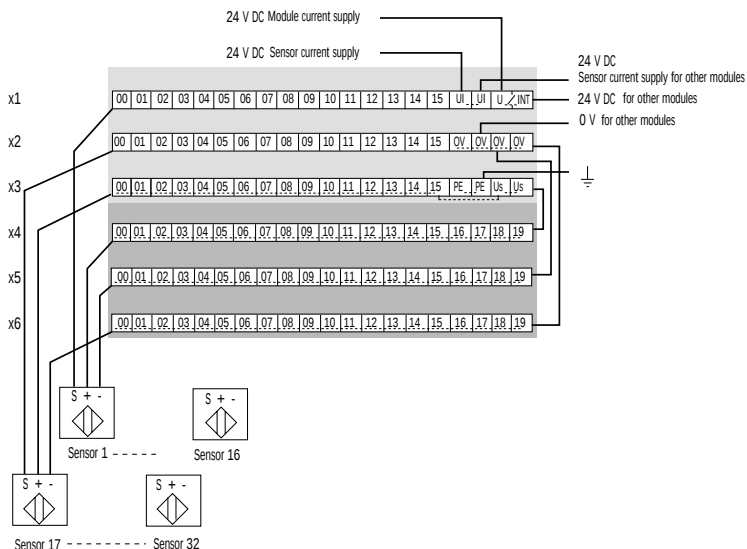
MBK-I DI16 (Art.-No. 55410)

MBK-P DI16 (Art.-No. 55400)



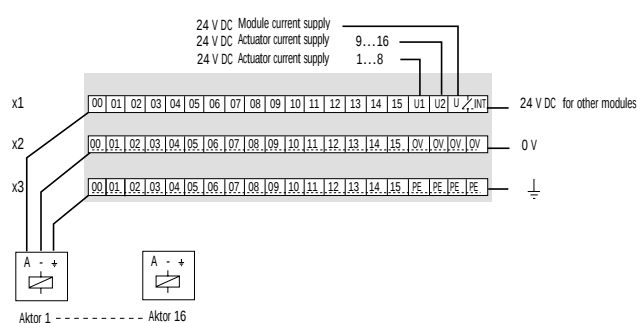
MBK-I DI32 (Art.-No. 55411) with 3 row common terminals

MBK-P DI32 (Art.-No. 55401) with 3 row common terminals

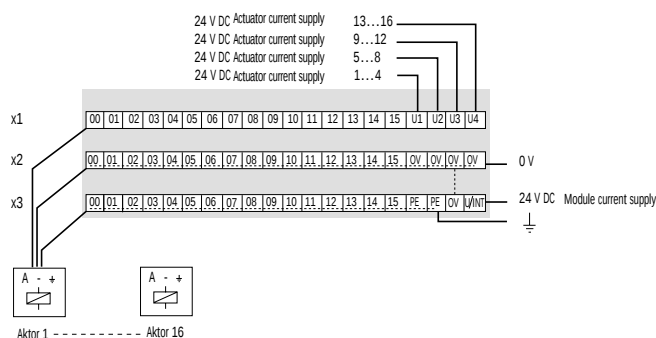


MBK-I D016/0,5 A (Art.-No. 55412)

MBK-P D016/0,5 A (Art.-No. 55402)

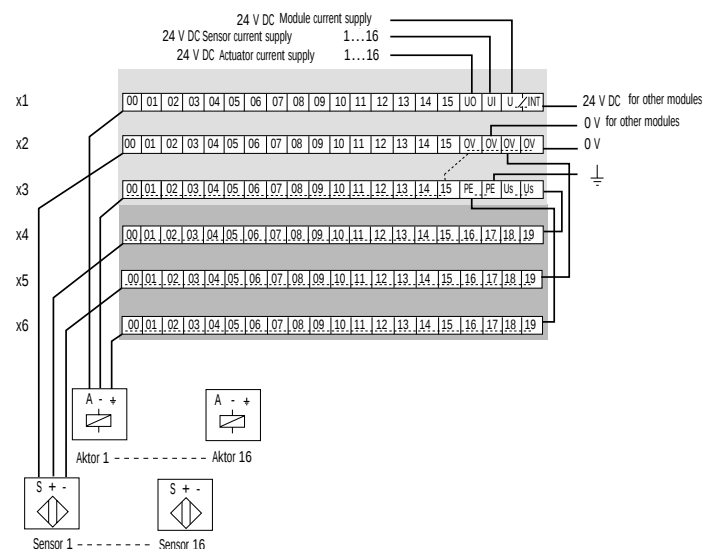


MBK-P D016/2 A (Art.-No. 55403)



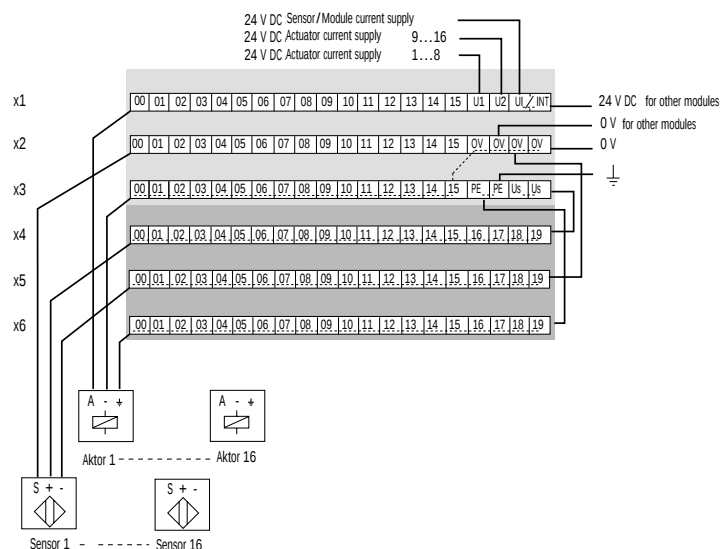
MBK-I DI16 DO16/0,5 A (Art.-No. 55414) with 3 row common terminals

MBK-P DI16 DO16/0,5 A (Art.-No. 55405) with 3 row common terminals



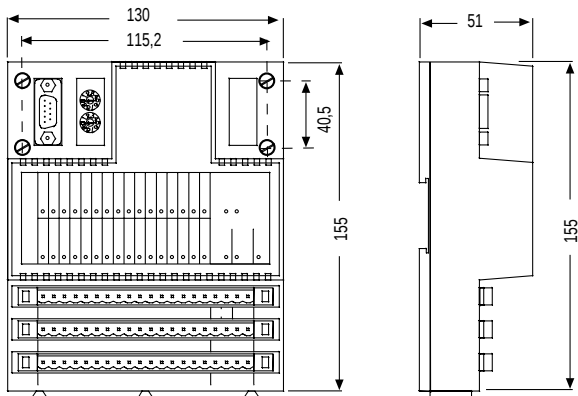
MBK-I DI16 D016/0,5 A (Art.-No. 55417, 55418, 55419)

with 3 row common terminals



Dimensions drawing

Fixing holes
Ø 4,6 mm = M4 Screws



Common terminals
for switching additional potentials

