

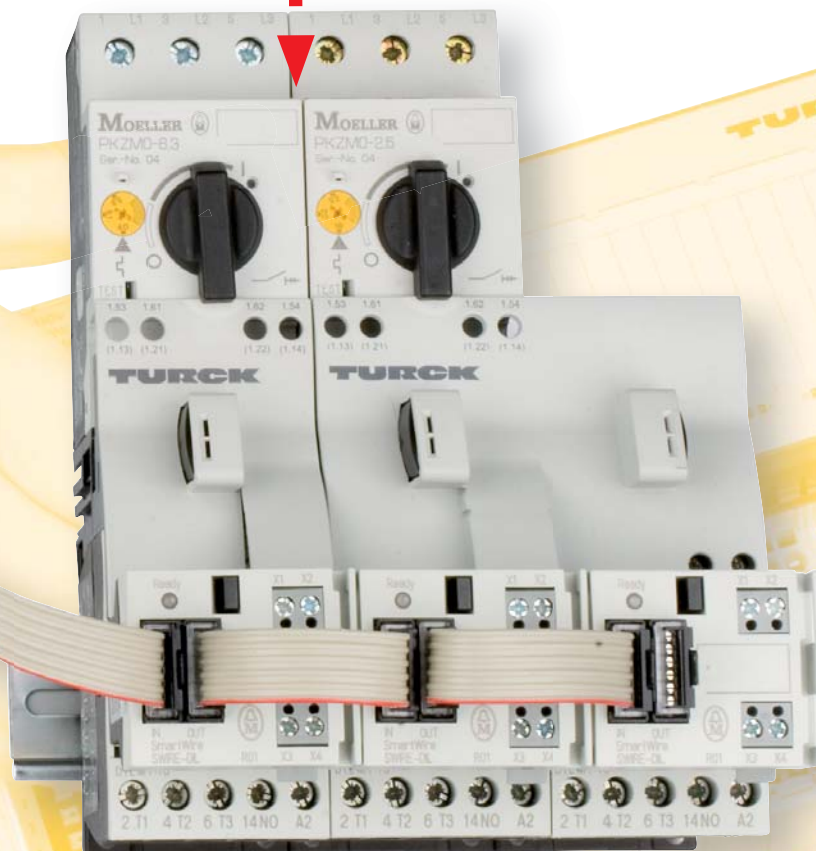
BL20 motor starter – Save switching and protection of motors

Direct and reversing starters up to 15 kW

The motor starters consequently build upon the advantages of the BL20 system:

- Modular:
- Flexible
- Simple mounting and operation
- Cost-efficient

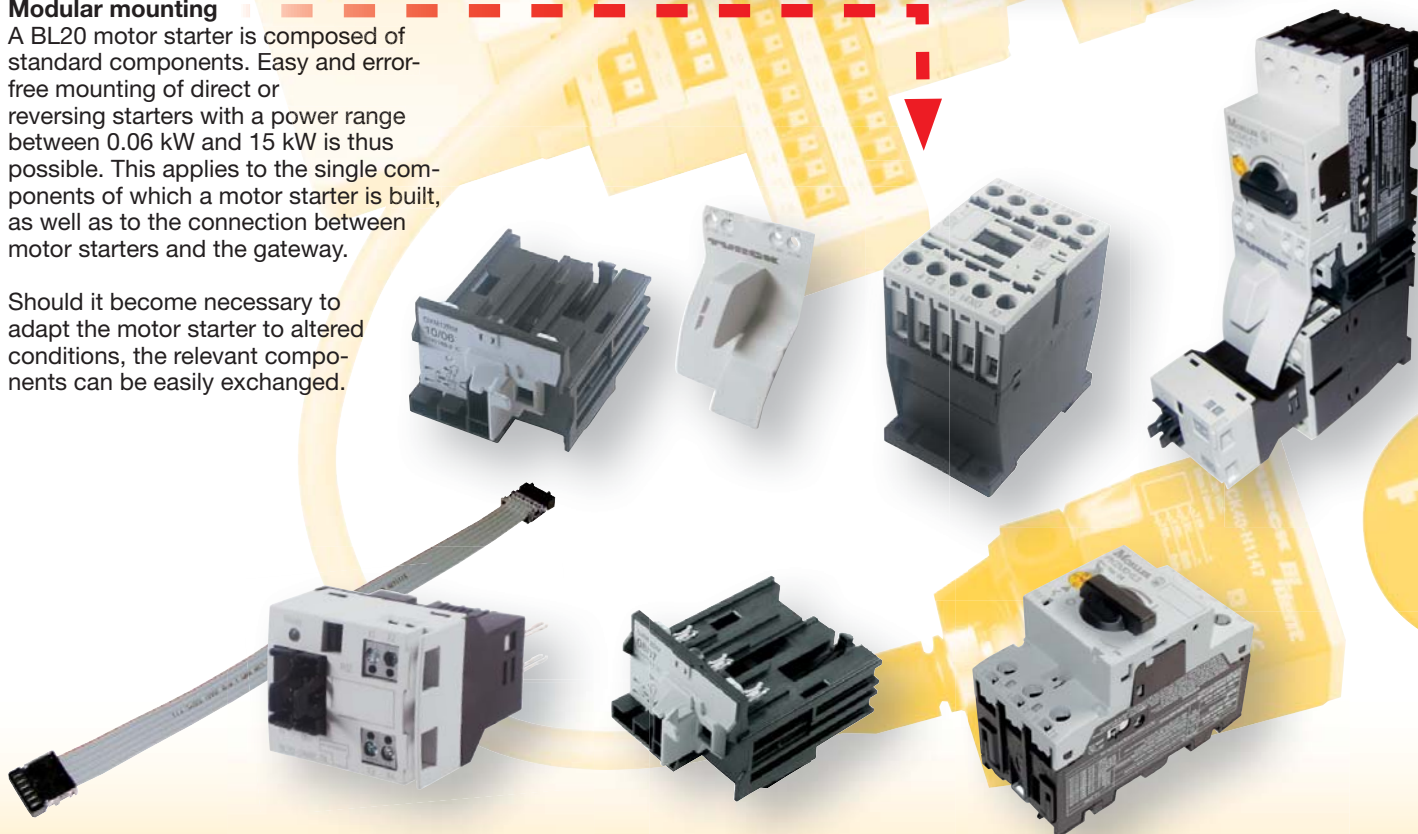
BL20 direct and reversing motor starters fulfil the requirements of the IEC/EN 60947-4-1 norm for industrial switching devices.



Modular mounting

A BL20 motor starter is composed of standard components. Easy and error-free mounting of direct or reversing starters with a power range between 0.06 kW and 15 kW is thus possible. This applies to the single components of which a motor starter is built, as well as to the connection between motor starters and the gateway.

Should it become necessary to adapt the motor starter to altered conditions, the relevant components can be easily exchanged.

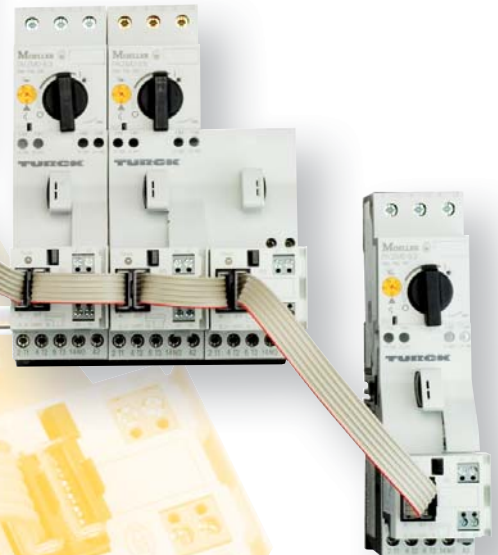


Compact system solution

The SWIRE connection module allows a maximum of 4 m between the module and the last motor starter. This allows an exceptionally flexible layout of the motor starters in the control cabinet and thus compact solutions.



← SWIRE connection



← maximum distance 4 m

Communication

Due to digital communications between the motor starters and the BL20, various diagnostics are available to the host system. This is realised without the need for extra I/Os.

This means:

- Reduction of commissioning times
- Quick trouble shooting
- Lower costs

Configuration

The integration of motor starters in the BL20 system is very easy: All connected motor starters are configured in the BL20 system by a simple tap on a push-button.

Maximum system expansion





Up to 16 motor starters per SWIRE module, up to 3 SWIRE branches per BL20-system = up to 48 motor starters per fieldbus interface!



BL20 motor starter – Selection guide direct starter

				
Rated operating performance	Motor protection switch	Auxiliary switch for motor protection switch	SWIRE communication module	
AC-3 , 380 V...415 V				
P, kW / hp		5 pcs / package	5 pcs /package	
0,06 / 0,08	PKZM0-0,25 6827283			
0,09 / 0,12	PKZM0-0,4 6827282			
0,12 / 0,16	PKZM0-0,63 6827280			
0,18 / 0,24	PKZM0-0,63 6827280			
0,25 / 0,33	PKZM0-1 6827279			
0,37 / 0,5	PKZM0-1,6 6827255			
0,55 / 0,74	PKZM0-1,6 6827255			
0,75 / 1	PKZM0-2,5 6827256			
1,1 / 1,5	PKZM0-4 6827257	NHI-E-10L-PKZ0 (5pcs) 6827254	BL20-SWIRE-DIL(5pcs) 6827291	
1,5 / 2	PKZM0-4 6827257			
2,2 / 2,95	PKZM0-6,3 6827258			
3 / 4	PKZM0-10 6827259			
4 / 5,4	PKZM0-10 6827259			
5,5 / 7,38	PKZM0-12 6827260			
7,5 / 10	PKZM0-16 6827284			
7,5 / 10	PKZM0-16 6827284			
11 / 15	PKZM0-25 6827285			
15 / 20	PKZM0-32 6827261			

* These power contactors require a different wiring set as mentioned here


Type "1" coordination		Type "2" coordination		
In type "1" coordination, the contactor or soft starter must not endanger persons or the installation in the event of a short-circuit and does not have to be capable of continued use without repairs or parts replacements.		In type "2" coordination, the contactor or soft starter must not endanger persons or the installation in the event of a short-circuit and must be capable of continued use without repairs or parts replacements.		
+		+		
				
Power contactor		Power contactor		
+		+		
				
Wiring set		Wiring set		
Aux. contact		Aux. contact		
1 x N.C.	1 x N. O.	1 x N.C.	1 x N.O.	
<p>DILM7-01(24VDC) 6827541</p> <p>DILM9-01(24VDC) 6827543</p> <p>DILM12-01(24VDC) 6827542</p> <p>DILM15-01(24VDC) 6827538</p> <p>DILM17-01(RDC24)* 6827298</p> <p>DILM25-01(RDC24)* 6827539</p> <p>DILM32-01(RDC24)* 6827540</p>	<p>DILM7-10(24VDC) 6827267</p> <p>DILM9-10(24VDC) 6827268</p> <p>DILM12-10(24VDC) 6827278</p> <p>DILM15-10(24VDC) 6827287</p> <p>DILM17-10(RDC24)* 6827297</p> <p>DILM25-10(RDC24)* 6827281</p> <p>DILM32-10(RDC24)* 6827270</p>	<p>BL20-PKZM0-XDM12 6827262</p> <p>BL20-PKZM0-XDM32 6827263</p>	<p>DILM7-01(24VDC) 6827541</p> <p>DILM7-10(24VDC) 6827267</p> <p>DILM17-01(RDC24)* 6827298</p> <p>DILM17-10(RDC24)* 6827297</p> <p>DILM25-01(RDC24)* 6827539</p> <p>DILM32-01(RDC24)* 6827540</p>	<p>BL20-PKZM0-XDM12 6827262</p> <p>BL20-PKZM0-XDM32 6827263</p>

BL20 motor starter – Selection guide reversing starter

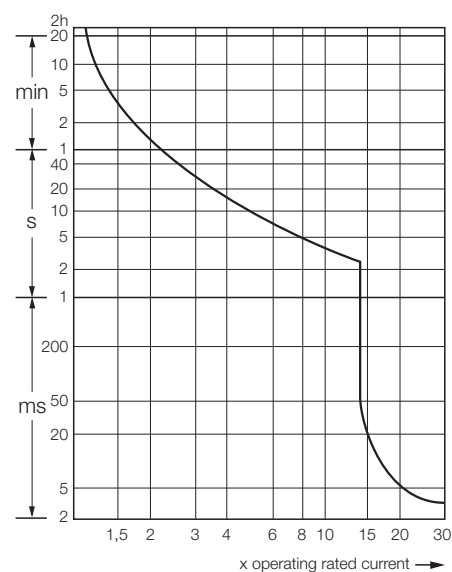
				
Rated operating performance	Motor protection switch	Auxiliary switch for motor protection switch	SWIRE communication module	
AC-3 , 380 V...415 V				
P, kW / hp		5 pcs / package	5 pcs / package	
0,06 / 0,08	PKZM0-0,25 6827283			
0,09 / 0,12	PKZM0-0,4 6827282			
0,12 / 0,16	PKZM0-0,63 6827280			
0,18 / 0,24	PKZM0-0,63 6827280			
0,25 / 0,33	PKZM0-1 6827279			
0,37 / 0,5	PKZM0-1,6 6827254			
0,55 / 0,74	PKZM0-1,6 6827254			
0,75 / 1	PKZM0-2,5 6827256			
1,1 / 1,5	PKZM0-4 6827257			
1,5 / 2	PKZM0-4 6827257			
2,2 / 2,95	PKZM0-6,3 6827258	NHI-E-10L-PKZ0 (5pcs) 6827254		
3 / 4	PKZM0-10 6827259			
4 / 5,4	PKZM0-10 6827259			
5,5 / 7,38	PKZM0-12 6827260		BL20-SWIRE-DIL(5pcs) 6827291	
7,5 / 10	PKZM0-16 6827284			
7,5 / 10	PKZM0-16 6827284			
11 / 15	PKZM0-25 6827285			
15 / 20	PKZM0-32 6827261			

* These power contactors require a different wiring set as mentioned here


BL20 motor starter – Technical specification motor protection switch

Type	Ident-no.	Max. rated operating performance					Rated continuous current	Setting range overload release	Short circuit release
		AC3							
		220 V	380 V	440 V	500 V	660 V			
		230 V	400V			690 V			
		240 V	415 V						
			P [kW]					I_U [A]	I_r [A]
PKZM0-0,25	6827283		0,06	0,06	0,06	0,12	0,25	0,16...0,25	3,5
PKZM0-0,4	6827282	0,06	0,09	0,12	0,12	0,18	0,4	0,25...0,4	5,6
PKZM0-0,63	6827280	0,09	0,12	0,18	0,25	0,25	0,63	0,4...0,63	6,8
PKZM0-1	6827279	0,12	0,25	0,25	0,37	0,55	1	0,63...1	14
PKZM0-1,6	6827254	0,25	0,55	0,55	0,75	1,1	1,6	1...1,6	22
PKZM0-2,5	6827256	0,37	0,75	1,1	1,1	1,5	2,5	1,6...2,5	35
PKZM0-4	6827257	0,75	1,5	1,5	2,2	3	4	2,5...4	56
PKZM0-6,3	6827258	1,1	2,2	3	3	4	6,3	4...6,3	88
PKZM0-10	6827259	2,2	4	4	4	7,5	10	6,3...10	140
PKZM0-12	6827260	3	5,5	5,5	5,5	11	12	8...12	168
PKZM0-16	6827284	4	7,5	9	9	12,5	16	10...16	224
PKZM0-25	6827285	5,5	12,5	12,5	15	22	25	20...25	350
PKZM0-32	6827261	7,5	15	15	22	30	32	25...32	448

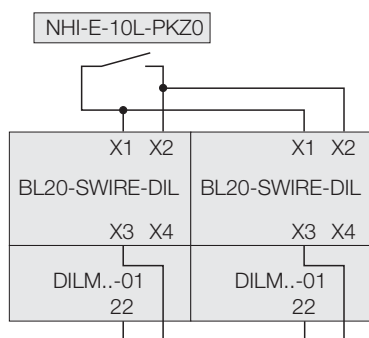
Tripping characteristic for motor protection switch PKZM0-...



BL20 motor starter – Technical specification power contactor

Type	Ident-no.	Rated operating current	Max. rated operating performance three-phase AC motor 50...60 Hz						$I_{th} = I_e$, AC-1 at 60°C, open	Contact-complement	
			AC-3			AC-4					
			380 V	220 V	380 V	660 V	220 V	380 V	660 V		
			400 V	230 V	400 V	690 V	230 V	400 V	690 V		
			I_e [A]	P [kW]			P [kW]			$I_{th} = I_e$ [A]	N.O./N.C.
DILM7-01(24VDC)	6827541	7	2,2	3	3,5	1	2,2	2,9	20	N.C.	
DILM7-10(24VDC)	6827267	7	2,2	3	3,5	1	2,2	2,9	20	N.O.	
DILM9-01(24VDC)	6827543	9	2,5	4	4,5	1,5	2,5	3,6	20	N.C.	
DILM9-10(24VDC)	6827268	9	2,5	4	4,5	1,5	2,5	3,6	20	N.O.	
DILM12-01(24VDC)	6827542	12	3,5	5,5	6,5	2	3	4,4	20	N.C.	
DILM12-10(24VDC)	6827278	12	3,5	5,5	6,5	2	3	4,4	20	N.O.	
DILM15-01(24VDC)	6827538	15,5	4	7,5	7	2	3	4,4	20	N.C.	
DILM15-10(24VDC)	6827287	15,5	4	7,5	7	2	3	4,4	20	N.O.	
DILM17-01(RDC24)	6827298	18	5	7,5	11	2,5	4,5	6,5	35	N.C.	
DILM17-10(RDC24)	6827297	18	5	7,5	11	2,5	4,5	6,5	35	N.O.	
DILM25-01(RDC24)	6827539	25	7,5	11	14	3,5	6	8,5	40	N.C.	
DILM25-10(RDC24)	6827281	25	7,5	11	14	3,5	6	8,5	40	N.O.	
DILM32-01(RDC24)	6827540	32	10	15	17	4	7	10	40	N.C.	
DILM32-01(RDC24)	6827270	32	10	15	17	4	7	10	40	N.O.	

Electrical interlock wiring for reversing starters



Power contactors with a N.C. output are obligatory for the electrical interlock of reversing starters. The wiring is implemented by the user as shown on the left. All other necessary connections are implemented with pluggable bridges which are included in the wiring sets.

BL20 motor starter – Accessories

Figure	Description	Type	Ident-no.
	Three-phase current rail, insulated, $U_e = 690\text{ V}$, $I_U = 63\text{ A}$, extension enabled by rotated mounting, length 90 mm	B3.0/2-PKZ0	6827099
	Three-phase current rail, insulated, $U_e = 690\text{ V}$, $I_U = 63\text{ A}$, extension enabled by rotated mounting, length 180 mm	B3.0/4-PKZ1	6827098
	Input terminal for three-phase current rail, insulated, $U_e = 690\text{ V}$, $I_U = 63\text{ A}$,	BK25/3-PKZ0	6827134
	No-load connection cover for non-assigned connections at three-phase current rails 20 pcs/ package	H-B3-PKZ0(20pcs)	6827544
	SWIRE power module. For power supply of SWIRE branches. Is applied when groups of motor starters have to be disconnected. Max. 4 Power modules per SWIRE branch.	BL20-SWIRE-PF	6827288
	Terminating connector for SWIRE-branches, no electrical function 25 pcs / package	BL20-SWIRE-CAB-000 (25pcs)	6827292
	SWIRE connection cable, length 85 mm 25 pcs / package	BL20-SWIRE-CAB-008 (25pcs)	6827274
	SWIRE connection cable, length 110 mm 25 pcs / package	BL20-SWIRE-CAB-011 (25pcs)	6827275
	SWIRE connection cable, length 150 mm 5 pcs / package	BL20-SWIRE-CAB-015 (5pcs)	6827293
	SWIRE connection cable, length 250 mm 5 pcs / package	BL20-SWIRE-CAB-025 (5pcs)	6827276
	SWIRE connection cable, length 500 mm	BL20-SWIRE-CAB-050	6827296
	SWIRE connection cable, length 1000 mm	BL20-SWIRE-CAB-100	6827294
	SWIRE connection cable, length 2000 mm	BL20-SWIRE-CAB-200	6827295
	Mechanical interlock for reversing starters with power contactors DILM7-DILM15	DILM12-XMV	6827269
	Mechanical interlock for reversing starters with power contactors DILM17-DILM32	DILM32-XMV	6827545

User manuals

The user manual for BL20 systems is only available as PDF file and can be downloaded on www.turck.com

