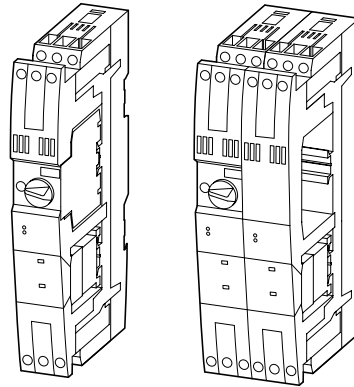
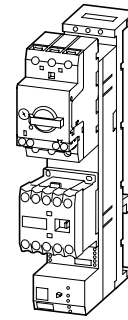


Moeller HPL0211-2004/2005

xStart-XS1



KLAS motor starter combination



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xStart-XS1 networkable motor starters  
KLAS motor-starter combinations





**System description**

xStart-XS1 carries the benefits of the XI/ON concept over to industrial motor starters to ensure flexible, system-wide plant availability. The XI/ON gateway provides openness and independence from the field bus. Installation is quick and easy: the base modules are simply snapped on and slid into place to make the connections. No additional wiring is needed. The convenient power modules are pluggable and simple to service. In addition, the object-oriented properties keep engineering times and costs low. Used as a direct or reversing starter, xStart-XS1 complies with the IEC/EN 60947-4-1 standard.

**Features**

- The following versions of xStart-XS1 are currently available:
- Standard
    - DOL starter with or without AGM (trip-indicating auxiliary contact)
    - Reversing starter with/without AGM
    - Unambiguous switch position indication through rotary handle
    - The isolating properties in "0" position are fulfilled.
    - Type-tested motor-starter combinations with AC-3 up to 415 V
    - xStart-XS1 reliably isolates even high short-circuit currents to keep both people and equipment safe.
    - The power modules are fitted directly to the base module and each has one status and diagnostics and one power LED.
    - Power distribution up to 63 A is through three-phase commoning links.
    - Depending on the application, I/O modules can be added before or after xStart.
  - Safety version
    - Emergency-Stop according to IEC/EN 954-1, switching category 2
    - Version with interlocked opposing auxiliary contacts
    - Fully prewired unit, no add-on modules required

**Description**

**DOL starters**

- Available with and without AGM
- For unidirectional drives
- For switching and protecting motors from 0.06 kW to 4.0 kW
- Mounting width only 45 mm without AGM and only 90 mm with AGM
- Consisting of a PKZM motor-protective circuit-breaker and a DILEM contactor

**Reversing starters**

- Available with and without AGM
- For bidirectional drives
- For switching and protecting motors from 0.06 kW to 4.0 kW
- Mounting width only 90 mm
- Consisting of a PKZM motor-protective circuit-breaker and two DILEM contactors

**Notes**

The networkable xStart-XS1 motor starter always requires an XN-GW-... gateway and a XN-BR (bus refreshing module) or XN-PF (power feeding module) control voltage supply.



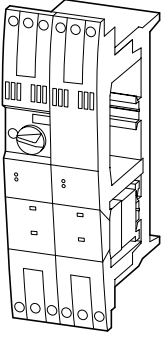


Moeller HPL0211-2004/2005

		Motor data		Setting range		Type Article no.	Price See Price List	Std. pack
		Rated power, AC-3 motor load switch	Rated operational current AC-3 400 V	Overload releases	Short-circuit release			
		400 V <i>P</i> kW	<i>I<sub>e</sub></i> A	<i>I<sub>r</sub></i> A	<i>I<sub>rm</sub></i> A			
<b>DOL starter, power section</b>								
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	<b>XS1-DS0-340-K06</b> 231250		1 off
		0.09	0.31	0.25 – 0.4	5.6	<b>XS1-DS0-340-K09</b> 231251		
		0.18	0.6	0.4 – 0.63	8.8	<b>XS1-DS0-340-K18</b> 231252		
		0.25	0.8	0.6 – 1	14	<b>XS1-DS0-340-K25</b> 231254		
		0.55	1.5	1 – 1.6	22	<b>XS1-DS0-340-K55</b> 231255		
		0.75	1.9	1.6 – 2.5	35	<b>XS1-DS0-340-K75</b> 231256		
		1.5	3.6	2.5 – 4	56	<b>XS1-DS0-340-1K5</b> 231257		
		2.2	5	4 – 6.3	88	<b>XS1-DS0-340-2K2</b> 231258		
		3	6.6	6.3 – 10	140	<b>XS1-DS0-340-3K0</b> 265682		
	4	8.5	6.3 – 10	140	<b>XS1-DS0-340-4K0</b> 265683			
	With AGM	0.06	0.21	0.16 – 0.25	3.5	<b>XS1-DS0-341-K06</b> 231520		
		0.09	0.32	0.25 – 0.4	5.6	<b>XS1-DS0-341-K09</b> 231521		
		0.18	0.6	0.4 – 0.63	8.8	<b>XS1-DS0-341-K18</b> 231522		
		25	0.8	0.6 – 1	14	<b>XS1-DS0-341-K25</b> 231523		
		0.55	1.5	1 – 1.6	22	<b>XS1-DS0-341-K55</b> 231524		
		0.75	1.9	1.6 – 2.5	35	<b>XS1-DS0-341-K75</b> 231525		
		1.5	3.6	2.5 – 4	56	<b>XS1-DS0-341-1K5</b> 231526		
		2.2	5	4 – 6.3	88	<b>XS1-DS0-341-2K2</b> 231527		
		3	6.6	6.3 – 10	140	<b>XS1-DS0-341-3K0</b> 265684		
	4	8.5	6.3 – 10	140	<b>XS1-DS0-341-4K0</b> 265685			

xStart-XS1 networkable motor starters



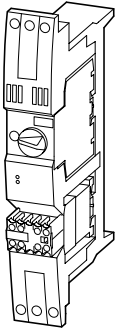
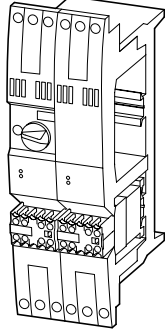


	Motor data		Setting range		Type Article no.	Price See Price List	Std. pack	
	Rated power, AC-3 motor load switch	Rated operational current AC-3 400 V	Overload releases	Short-circuit release				
	400 V <i>P</i> kW	<i>I<sub>e</sub></i> A	<i>I<sub>r</sub></i> A 	<i>I<sub>rm</sub></i> A 				
<b>Reversing starter, power section</b>								
	Without AGM		0.06	0.21	0.16 – 0.25	3.5	<b>XS1-RS0-340-K06</b> 231259	1 off
			0.09	0.31	0.25 – 0.4	5.6	<b>XS1-RS0-340-K09</b> 231260	
			0.18	0.6	0.4 – 0.63	8.8	<b>XS1-RS0-340-K18</b> 231261	
			0.25	0.8	0.6 – 1	14	<b>XS1-RS0-340-K25</b> 231262	
			0.55	1.5	1 – 1.6	22	<b>XS1-RS0-340-K55</b> 231263	
			0.75	1.9	1.6 – 2.5	35	<b>XS1-RS0-340-K75</b> 231264	
			1.5	3.6	2.5 – 4	56	<b>XS1-RS0-340-1K5</b> 231265	
			2.2	5	4 – 6.3	88	<b>XS1-RS0-340-2K2</b> 231266	
			3	6.6	6.3 – 10	140	<b>XS1-RS0-340-3K0</b> 265686	
			4	8.5	6.3 – 10	140	<b>XS1-RS0-340-4K0</b> 265687	
	With AGM		0.06	0.21	0.16 – 0.25	3.5	<b>XS1-RS0-341-K06</b> 231528	
			0.09	0.32	0.25 – 0.4	5.6	<b>XS1-RS0-341-K09</b> 231529	
			0.18	0.6	0.4 – 0.63	8.8	<b>XS1-RS0-341-K18</b> 231530	
			0.25	0.8	0.6 – 1	14	<b>XS1-RS0-341-K25</b> 231531	
			0.55	1.5	1 – 1.6	22	<b>XS1-RS0-341-K55</b> 231532	
			0.75	1.9	1.6 – 2.5	35	<b>XS1-RS0-341-K75</b> 231533	
			1.5	3.6	2.5 – 4	56	<b>XS1-RS0-341-1K5</b> 231534	
			2.2	5	4 – 6.3	88	<b>XS1-RS0-341-2K2</b> 231535	
		3	6.6	6.3 – 10	140	<b>XS1-RS0-341-3K0</b> 265688		
		4	8.5	6.3 – 10	140	<b>XS1-RS0-341-4K0</b> 265690		



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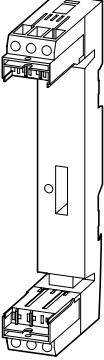
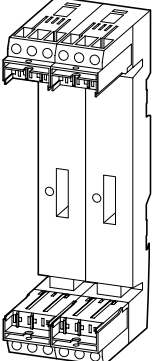


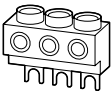

xStart-XS1 networkable motor starters

	Motor data	Rated operational current	Setting range	Short-circuit	Type	Price	Std. pack
	Rated power, AC-3 motor load switch	AC-3 400 V	Overload releases	releases	Article no.	See Price List	
	400 V	$I_e$	$I_r$	$I_m$			
	P	A	A	A			
	kW						
<b>DOL starter, power section</b>							
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	XS1-DS1-340-K06 274225	1 off
		0.09	0.31	0.25 – 0.4	5.6	XS1-DS1-340-K09 274226	
		0.18	0.6	0.4 – 0.63	8.8	XS1-DS1-340-K18 274228	
		0.25	0.8	0.6 – 1	14	XS1-DS1-340-K25 274229	
		0.55	1.5	1 – 1.6	22	XS1-DS1-340-K55 274250	
		0.75	1.9	1.6 – 2.5	35	XS1-DS1-340-K75 274252	
		1.5	3.6	2.5 – 4	56	XS1-DS1-340-1K5 274253	
		2.2	5	4 – 6.3	88	XS1-DS1-340-2K2 274254	
		3	6.6	6.3 – 10	140	XS1-DS1-340-3K0 274256	
4	8.5	6.3 – 10	140	XS1-DS1-340-4K0 274257			
<b>Reversing starter, power section</b>							
	Without AGM	0.06	0.21	0.16 – 0.25	3.5	XS1-RS1-340-K06 274260	1 off
		0.09	0.31	0.25 – 0.4	5.6	XS1-RS1-340-K09 274261	
		0.18	0.6	0.4 – 0.63	8.8	XS1-RS1-340-K18 274262	
		0.25	0.8	0.6 – 1	14	XS1-RS1-340-K25 274263	
		0.55	1.5	1 – 1.6	22	XS1-RS1-340-K55 274264	
		0.75	1.9	1.6 – 2.5	35	XS1-RS1-340-K75 274265	
		1.5	3.6	2.5 – 4	56	XS1-RS1-340-1K5 274266	
		2.2	5	4 – 6.3	88	XS1-RS1-340-2K2 274267	
		3	6.6	6.3 – 10	140	XS1-RS1-340-3K0 274268	
	4	8.5	6.3 – 10	140	XS1-RS1-340-4K0 274269		
	With AGM	0.06	0.21	0.16 – 0.25	3.5	XS1-RS1-341-K06 274270	1 off
		0.09	0.31	0.25 – 0.4	5.6	XS1-RS1-341-K09 274271	
		0.18	0.6	0.4 – 0.63	8.8	XS1-RS1-341-K18 274272	
		0.25	0.8	0.6 – 1	14	XS1-RS1-341-K25 274273	
		0.55	1.5	1 – 1.6	22	XS1-RS1-341-K55 274274	
		0.75	1.9	1.6 – 2.5	35	XS1-RS1-341-K75 274275	
		1.5	3.6	2.5 – 4	56	XS1-RS1-341-1K5 274276	
		2.2	5	4 – 6.3	88	XS1-RS1-341-2K2 274277	
3		6.6	6.3 – 10	140	XS1-RS1-341-3K0 274278		
4	8.5	6.3 – 10	140	XS1-RS1-341-4K0 274279			



## Base modules, accessories

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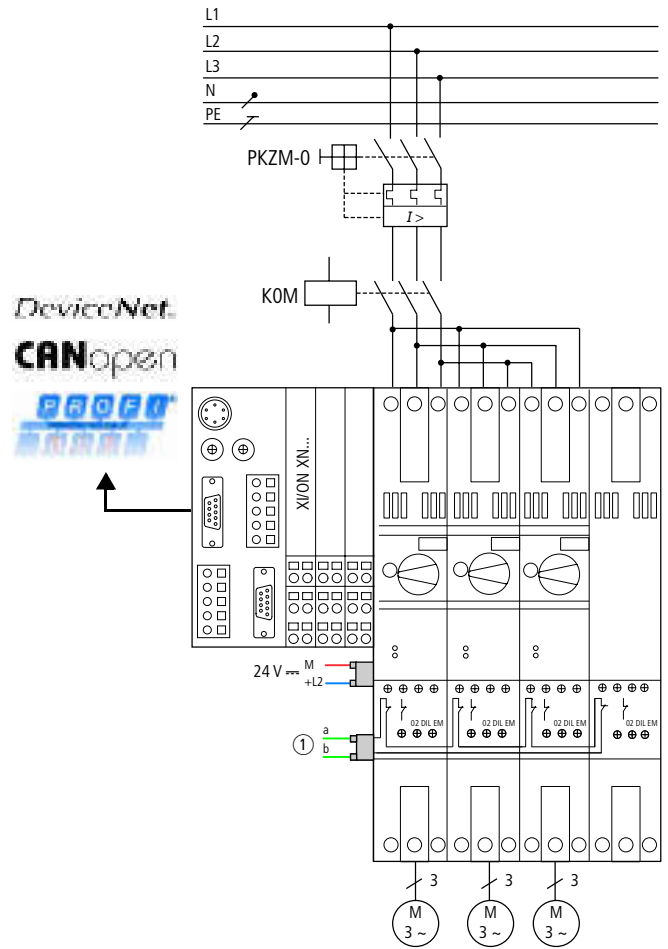
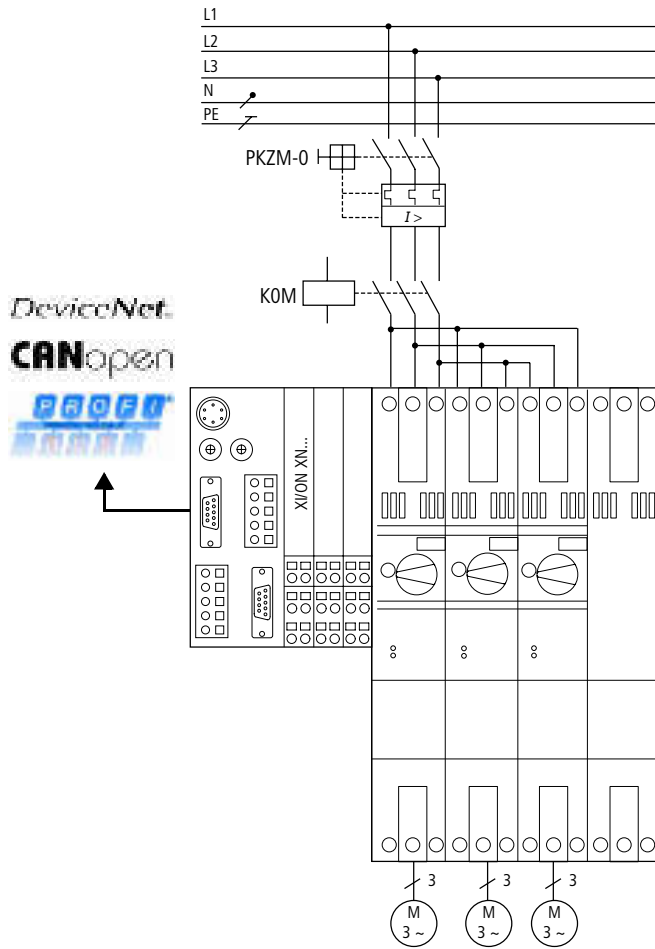
	Description	Type Article no.	Price See Price List	Std. pack
<b>Base modules</b>				
	For DOL starters without AGM	–	<b>XS1-XBMS-DS0-A</b> 231267	1 off
	For DOL starters without AGM – Safety version –	–	<b>XS1-XBMS-DS1-A</b> 274258	1 off
	For DOL starters with AGM and for reversing starters with/without AGM	–	<b>XS1-XBMS-RS0-A</b> 231268	1 off
	For DOL starters with AGM and for reversing starters with/without AGM – Safety version –	–	<b>XS1-XBMS-RS1-A</b> 274280	1 off
<b>Accessories</b>				
	Three-phase commoning links	Finger and back-of-hand-proof, $U_e = 690 \text{ V}$ , $I_u = 63 \text{ A}$ Can be extended through rotated mounting Length 90 mm	<b>B3.0/2-PKZO</b> 063961	10 off
	Three-phase commoning links	Finger and back-of-hand-proof, $U_e = 690 \text{ V}$ , $I_u = 63 \text{ A}$ Can be extended through rotated mounting Length 180 mm	<b>B3.0/4-PKZO</b> 063960	10 off
	Incoming terminal	For three-phase commoning link Finger and back-of-hand-proof, $U_e = 690 \text{ V}$ , $I_u = 63 \text{ A}$	<b>BK25/3-PKZO</b> 032720	5 off
	Shroud for unused terminals	Protection against direct contact. For covering unused terminals of the three-phase current commoning link	<b>H-B3-PKZO</b> 032721	20 off



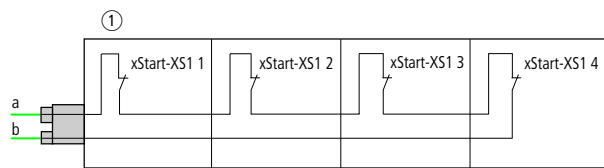
Moeller HPL 0211-2004/2005

Standard version

Safety version

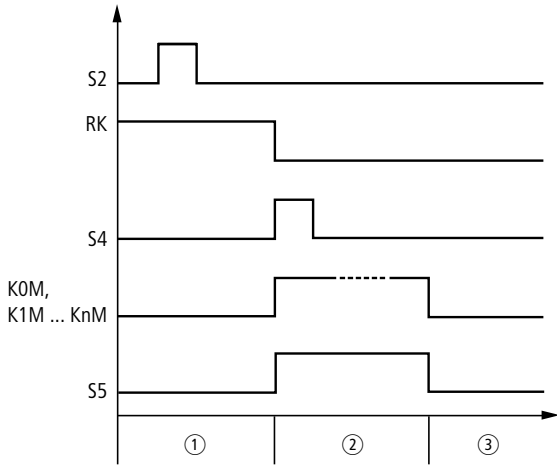


Feedback circuit



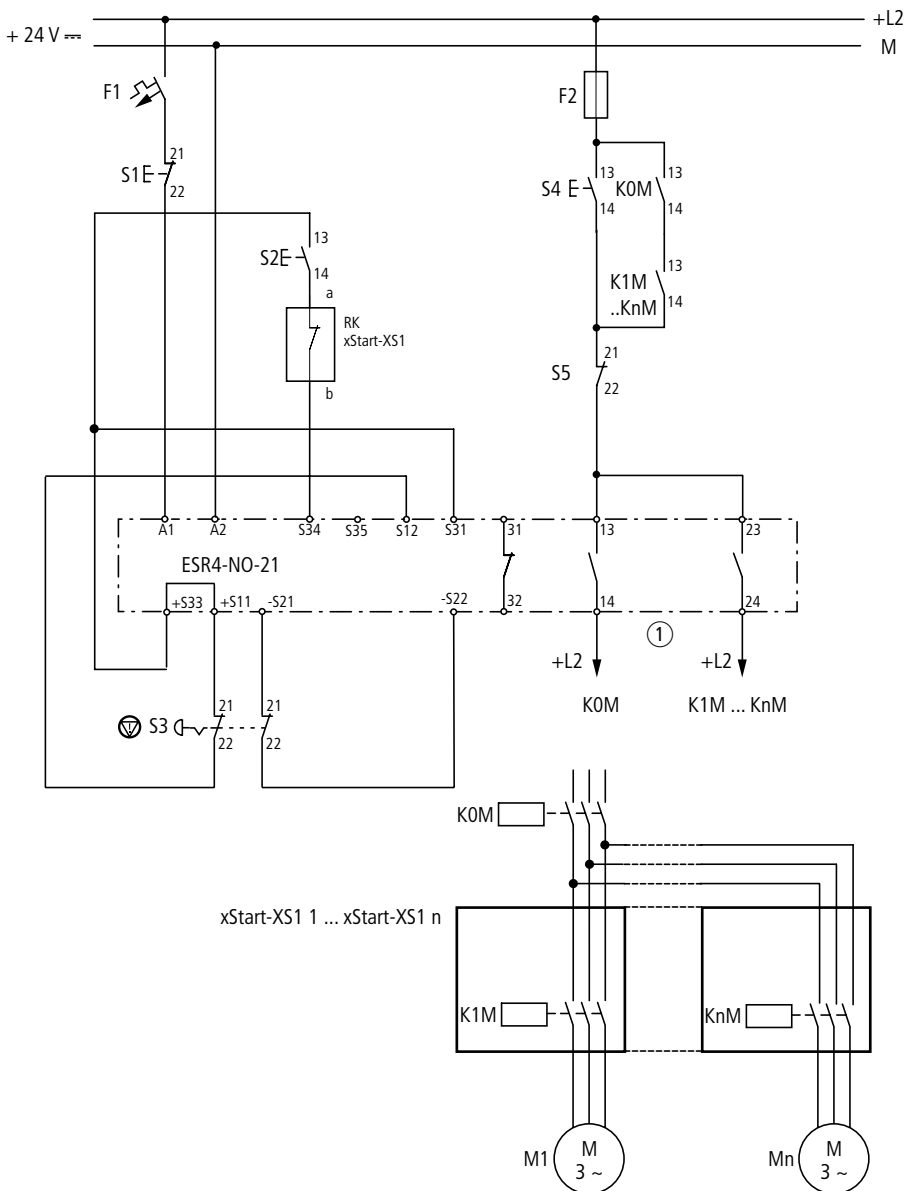
xStart-XS1, standard and safety version

Flow diagram: xStart-XS1 safety version



- ① Scanning protection state of xStart-XS1 feedback circuit
- ② ON switching signal
- ③ OFF switching signal

xStart-XS1 safety version and ESR4 safety relay



- RK: Feedback circuit
- S1: OFF
- S2: ON
- S3: Emergency-stop
- S4: Start
- S5: Stop
- KOM: Group contactor
- K1M..KnM: xStart-XS1 modules

## Description

## KLAS motor starter combinations

Moeller HPL0211-2004/2005

**AS interface KLAS motor starter combinations**

The KLAS networkable load feeder system allows a motor starter (DOL or reversing starter) to be networked with the AS interface bus system.

All networkable KLAS motor starter combinations with PKZM0 and DILM are suitable for type "1" coordination and with motor ratings up to 0.55 kW also for type "2" coordination.

Using KLAS allows the additional benefits of bus systems, such as optimum operating safety, to be fully exploited:

**Time savings, cost reduction, simple maintenance**

- Simple planning (no cable harnesses, optimum flexibility)
- Simpler engineering and documentation, since terminal points are no longer necessary
- Reduction of installation costs (cables, plugs, cable ducts etc.)
- Simple maintenance (precise diagnostics, short downtimes)

**KLAS open**



KLAS offers an open, modular system for use in control panels. It is supplied as a fully assembled, pre-wired and tested solution for ratings up to 7.5 kW at 400/415 V AC. The bus logic is integrated in the motor starter module, so no additional mounting width is required. The motor starter module is connected with two insulation piercing terminals.

**Compact, simple handling**

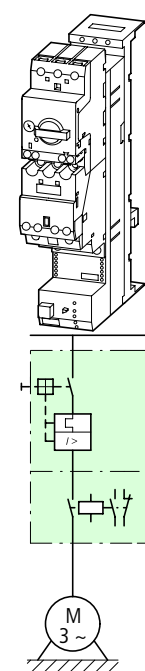
- No additional space required in the control panel
- Adaption on busbar system or mounting on top-hat rail
- AS interface diagnostics and auxiliary power status via LED
- Plug-in load feeder



Moeller HPL0211-2004/2005

Motor data			Setting range		Actuating voltage 230 V 50 Hz		Std. pack
Motor rating AC-3 400 V	Rated operational current AC-3 400 V	Rated short-circuit current at 400 V	Overload releases	Short-circuit release	Type Article no.	Price See Price List	
<i>P</i> kW	<i>I<sub>e</sub></i> A	<i>I<sub>q</sub></i> kA	<i>I<sub>r</sub></i> A	<i>I<sub>m</sub></i> A			
							

KLAS open compact starter PKZM0 for type "1" coordination



Motor rating	Rated operational current	Rated short-circuit current	Overload releases	Short-circuit release	Type Article no.	Price See Price List	Std. pack
0.06	0.21	100	0.16 – 0.25	3.5	KLAS21-0,06-S-AC 218882		1 off
0.09	0.31	100	0.25 – 0.4	5.6	KLAS21-0,09-S-AC 218883		
0.12 0.18	0.41 0.6	100	0.4 – 0.63	8.8	KLAS21-0,18-S-AC 218884		
0.25	0.8	100	0.6 – 1	14	KLAS21-0,25-S-AC 218885		
0.37 0.55	1.1 1.5	100	1 – 1.6	22	KLAS21-0,55-S-AC 218886		
0.75	1.9	100	1.6 – 2.5	35	KLAS21-0,75-S-AC 218887		
1.1 1.5	2.6 3.6	100	2.5 – 4	56	KLAS21-1,5-S-AC 218888		
2.2	5	100	4 – 6.3	88	KLAS21-2,2-S-AC 218889		
3 4	6.6 8.5	100	6.3 – 10	140	KLAS21-4-S-AC 218890		

Moeller HPL0211-2004/2005

Actuating voltage 24 V DC		Std. pack	Notes
Type Article no.	Price See Price List		

KLAS21-0,06-S-DC 218891		1 off	<ul style="list-style-type: none"> <li>The compact starters consist of a PKZM0 motor-protective circuit-breaker and an SE00 contact module of the same mechanical design.</li> <li>The starters are fully prewired</li> <li>The devices can be snap-fitted centrally as a unit onto a IEC/EN 60715 top-hat rail</li> <li>Suppressor always built-in</li> <li>Connection of the AS interface cable and the auxiliary power cable AS interface connector (with insulation piercing terminals)</li> <li>As supplied, all modules have the address zero. In the AS interface network, each slave must have an address between 1 and 31. Each address within the AS interface network must be unique.</li> <li>When ordering with +KLAS-XAD..., starter fully fitted to adapter</li> </ul>
KLAS21-0,09-S-DC 218892			
KLAS21-0,18-S-DC 218893			
KLAS21-0,25-S-DC 218894			
KLAS21-0,55-S-DC 218895			
KLAS21-0,75-S-DC 218896			
KLAS21-1,5-S-DC 218897			
KLAS21-2,2-S-DC 218898			
KLAS21-4-S-DC 218899			

Rail thickness	For use with	Type Article no.	Price See Price List	Std. pack
mm				

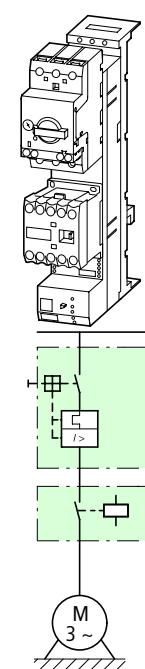
KLAS open for SASY60 busbar system

5	KLAS21...	+KLAS-XAD45-5 217032		1 off
10	KLAS21...	+KLAS-XAD45-10 218900		
5	KLAS32...	+KLAS-XAD90-5 217036		
10	KLAS32...	+KLAS-XAD90-10 218901		

Moeller HPL0211-2004/2005

Motor data			Setting range		Actuating voltage 230 V 50 Hz Type Article no.	Price	Std. pack
Motor rating AC-3 400 V	Rated operational current AC-3 400 V	Rated short-circuit current at 400 V	Overload releases	Short-circuit releases			
$P$ kW	$I_e$ A	$I_q$ kA	$I_r$ A	$I_m$ A			

KLAS open with PKZM0 and DILM



0.06	0.21	100	0.16 – 0.25	3.5	KLAS21-0,06-AC 217039		1 off
0.09	0.31	100	0.25 – 0.4	5.6	KLAS21-0,09-AC 218844		
0.12 0.18	0.41 0.6	100	0.4 – 0.63	8.8	KLAS21-0,18-AC 218845		
0.25	0.8	100	0.6 – 1	14	KLAS21-0,25-AC 218846		
0.37 0.55	1.1 1.5	100	1 – 1.6	22	KLAS21-0,55-AC 218847		
0.75	1.9	100	1.6 – 2.5	35	KLAS21-0,75-AC 218848		
1.1 1.5	2.6 3.6	100	2.5 – 4	56	KLAS21-1,5-AC 218849		
2.2	5	100	4 – 6.3	88	KLAS21-2,2-AC 218850		
3 4	6.6 8.5	100	6.3 – 10	140	KLAS21-4-AC 218851		
5.5	11.3	16	10 – 16	224	KLAS21-5,5-AC 218852		
7.5	15.2	16	10 – 16	224	KLAS21-7,5-AC 218853		

Moeller HPL0211-2004/2005

Actuating voltage 24 V DC Type Article no.		Price	Std. pack	Notes

KLAS21-0,06-DC 218854			1 off	<ul style="list-style-type: none"> <li>The DOL starters (complete units) consist of a PKZM0 motor-protective circuit-breaker and a DILM contactor</li> <li>The starters are fully prewired</li> <li>The devices can be snap-fitted centrally as a unit onto a IEC/EN 60715 top-hat rail</li> <li>Suppressor always built-in. Connection of the AS interface cable and the auxiliary power cable AS interface connector (with insulation piercing terminals)</li> <li>As supplied, all modules have the address zero. In the AS interface network, each slave must have an address between 1 and 31. Each address within the AS interface network must be unique.</li> <li>When ordering with +KLAS-XAD..., starter fully fitted to adapter</li> <li>All networkable motor starters fulfill type "1" coordination. Up to 0.55 kW motor rating, additionally type "2" coordination</li> </ul>
KLAS21-0,09-DC 218855				
KLAS21-0,18-DC 218856				
KLAS21-0,25-DC 218857				
KLAS21-0,55-DC 218858				
KLAS21-0,75-DC 218859				
KLAS21-1,5-DC 218860				
KLAS21-2,2-DC 218861				
KLAS21-4-DC 218862				
KLAS21-5,5-DC 217065				
KLAS21-7,5-DC 217057				

Rail thickness	For use with	Type Article no.	Price	Std. pack
mm				

KLAS open for SASY60 busbar system

5	KLAS21...	+KLAS-XAD45-5 217032		1 off
10	KLAS21...	+KLAS-XAD45-10 218900		
5	KLAS32...	+KLAS-XAD90-5 217036		
10	KLAS32...	+KLAS-XAD90-10 218901		

KLAS motor starter combinations

KLAS motor starter combinations

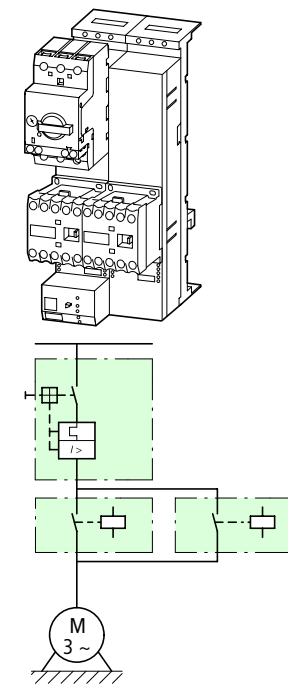


Moeller HPL0211-2004/2005

Motor data			Setting range		Type Article no.	Price See Price List	Std. pack
Motor rating AC-3 400 V	Rated opera- tional current AC-3 400 V	Rated short- circuit current at 400 V	Overload releases	Short- circuit releases			
$P$ kW	$I_e$ A	$I_q$ kA	$I_r$ A	$I_m$ A			

Actuating voltage 230 V 50 Hz

KLAS open with PKZM0 and DILM



0.06	0.21	100	0.16 – 0.25	3.5	KLAS32-0,06-W-AC 217060	1 off
0.09	0.31	100	0.25 – 0.4	5.6	KLAS32-0,09-W-AC 218863	
0.12 0.18	0.41 0.6	100	0.4 – 0.63	8.8	KLAS32-0,18-W-AC 218864	
0.25	0.8	100	0.6 – 1	14	KLAS32-0,25-W-AC 218865	
0.37 0.55	1.1 1.5	100	1 – 1.6	22	KLAS32-0,55-W-AC 218866	
0.75	1.9	100	1.6 – 2.5	35	KLAS32-0,75-W-AC 218867	
1.1 1.5	2.6 3.6	100	2.5 – 4	56	KLAS32-1,5-W-AC 218868	
2.2	5	100	4 – 6.3	88	KLAS32-2,2-W-AC 218869	
3 4	6.6 8.5	100	6.3 – 10	140	KLAS32-4-W-AC 218870	
5.5	11.3	16	10 – 16	224	KLAS32-5,5-W-AC 218871	
7.5	15.2	16	10 – 16	224	KLAS32-7,5-W-AC 218872	

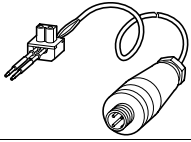

Moeller HPL0211-2004/2005

Actuating voltage 24 V DC

Type Article no.	Price See Price List	Std. pack	Notes
KLAS32-0,06-W-DC 218873		1 off	<ul style="list-style-type: none"> <li>The reversing starters (complete units) consist of a PKZM0 motor-protective circuit-breaker and two DILM contactors</li> <li>The starters are fully prewired</li> <li>The devices can be snap-fitted centrally as a unit onto a IEC/EN 60715 top-hat rail</li> <li>2.2 kW reversing starters also with mechanical interlock for increased safety during reversing operation</li> <li>Suppressor always built-in</li> <li>Connection of the AS interface cable and the auxiliary power cable AS interface connector (with insulation piercing terminals)</li> <li>As supplied, all modules have the address zero. In the AS interface network, each slave must have an address between 1 and 31. Each address within the AS interface network must be unique.</li> <li>All networkable motor starters fulfill type "1" coordination. Up to 0.55 kW motor rating, additionally type "2" coordination</li> <li>When ordering with +KLAS-XAD..., starter fully fitted to adapter</li> </ul>
KLAS32-0,09-W-DC 218874			
KLAS32-0,18-W-DC 218875			
KLAS32-0,25-W-DC 218876			
KLAS32-0,55-W-DC 218877			
KLAS32-0,75-W-DC 218878			
KLAS32-1,5-W-DC 218879			
KLAS32-2,2-W-DC 217063			
KLAS32-4-W-DC 218880			
KLAS32-5,5-W-DC 218881			
KLAS32-7,5-W-DC 217058			

1 off

- The reversing starters (complete units) consist of a PKZM0 motor-protective circuit-breaker and two DILM contactors
- The starters are fully prewired
- The devices can be snap-fitted centrally as a unit onto a IEC/EN 60715 top-hat rail
- 2.2 kW reversing starters also with mechanical interlock for increased safety during reversing operation
- Suppressor always built-in
- Connection of the AS interface cable and the auxiliary power cable AS interface connector (with insulation piercing terminals)
- As supplied, all modules have the address zero. In the AS interface network, each slave must have an address between 1 and 31. Each address within the AS interface network must be unique.
- All networkable motor starters fulfill type "1" coordination. Up to 0.55 kW motor rating, additionally type "2" coordination
- When ordering with +KLAS-XAD..., starter fully fitted to adapter

Description		Type Article no.	Price	Std. pack
<b>Accessories</b>				
Addressing cable				
	Cable for connecting the addressing unit to KLAS open: Addressing cable with M12 plug and AS interface connecting plug	<b>ADL-ASI</b> 219553		1 off
AS interface connection plug kit				
<ul style="list-style-type: none"> <li>• For data and auxiliary power cable</li> <li>• Set of 5 of the same colour with insulation piercing terminals for 2 × (0.5 – 0.75 mm<sup>2</sup>)</li> <li>• Standard drain wire, for KLAS open</li> </ul>				
	–	Yellow	<b>ZB2-102-DS1</b> 219550	1 off
	–	Black	<b>ZB2-102-DS2</b> 219551	
	–	Red	<b>ZB2-102-DS3</b> 219552	



## Technical data

## xStart-XS1

Moeller HPL0211-2004/2005

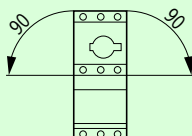
			DOL starters	Reversing starters	Base modules
<b>General technical data</b>					
Standards			IEC/EN 60947-1 and IEC/EN 60947-4-1 EN 50081-1, EN 50082-2		
Radio interference suppression (EN 55011)			Yes	Yes	Yes
Limit value class			"B"	"B"	"B"
Degree of protection			IP 20	IP 20	IP 20
Overvoltage category/pollution degree			III/3	III/3	III/3
Climatic proofing			Damp heat, constant, to IEC 60068-2-3		
Ambient temperature					
Storage		°C	-25/70	-25/70	-25/70
Operation		°C	0 – 55	0 – 55	0 – 55
Half-sinusoidal shock, 20 ms to IEC 60068-2-27		g	8	8	8
Mounting position			Vertical or horizontal		
Distance of mounting rail (central) (vertical: xStart rotated 90° anticlockwise)			125 mm	125 mm	125 mm
<b>Main circuit</b>					
Rated operational voltage	$U_e$	V AC	415, AC-3	415, AC-3	415, AC-3
Rated insulation voltage	$U_i$	V	690	690	690
Rated operational current of three-phase block	$I_e$	A	63	63	63
Coordination type					
Up to 1.6 A			2	2	–
Up to 10 A			1	1	–
Motor starting current		A	max. 70	max. 70	–
<b>Auxiliary circuit</b>					
Rated operational voltage	$U_e$	V DC	24	24	24
<b>Terminal capacity</b>					
Incoming terminal					
Stranded		mm <sup>2</sup>	2.5 – 25	2.5 – 25	2.5 – 25
Flexible with ferrule		mm <sup>2</sup>	2.5 – 16	2.5 – 16	2.5 – 16
Motor feeder					
Solid		mm <sup>2</sup>	1 × (1 – 6) 2 × (1 – 2.5)	1 × (1 – 6) 2 × (1 – 2.5)	1 × (1 – 6) 2 × (1 – 2.5)
Flexible with ferrule		mm <sup>2</sup>	1 × (1 – 4) 2 × (1 – 2.5)	1 × (1 – 4) 2 × (1 – 2.5)	1 × (1 – 4) 2 × (1 – 2.5)



# 16/18 Technical data

## KLAS motor starter combinations

Moeller HPL0211-2004/2005

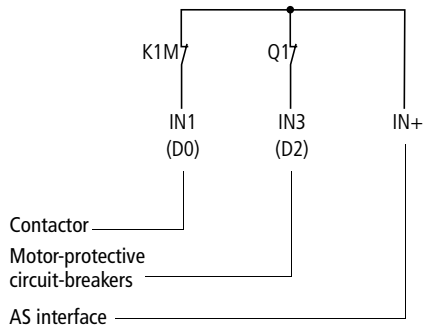
			KLAS open
<b>General technical data</b>			
Standards			EN 50081-1 EN 50081-2
Radio interference suppression			EN 55011
Limit value class			B
Degree of protection			IP 20
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Storage		°C	-25 – 70
Open		°C	0/55
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 20 ms to IEC 60068-2-27		g	8
Mounting position			
<b>AS interface</b>			
Power supply for electronics and inputs (switching device state signalling through AS interface data cable)		V DC	26.5 – 31.6 (to AS interface specifications)
AS interface slave profile			
I/O configuration (hex)			7
ID code (hex)			F
Total power consumption of the AS interface		mA	≤65
Protection against polarity reversal			Yes
<b>Outputs</b>			
External power supply of outputs (actuation of contactor coils through auxiliary power)		V	24 DC 230 AC
Watchdog function (isolation of outputs on AS interface fault)			Integrated
<b>Main circuit</b>			
Rated operational voltage	$U_e$	V AC	415
Rated impulse withstand voltage	$U_{imp}$	kV	4
Overvoltage category/pollution degree			III/3
Rated uninterrupted current	$I_u$	A	16
Terminal capacity			
AS interface and auxiliary power		mm <sup>2</sup>	0.5 – 0.75 (flexible through plug connector)
Motor connector		mm <sup>2</sup>	≤ 2.5 (flexible without ferrule)
<b>Notes</b>			Mechanical shock resistance: 6 g for KLAS...-4...7,5-AC(DC)



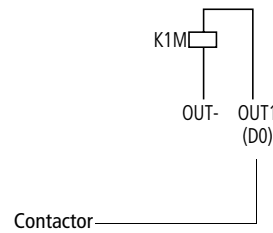
Moeller HPL0211-2004/2005

**DOL starters**

Input assignment

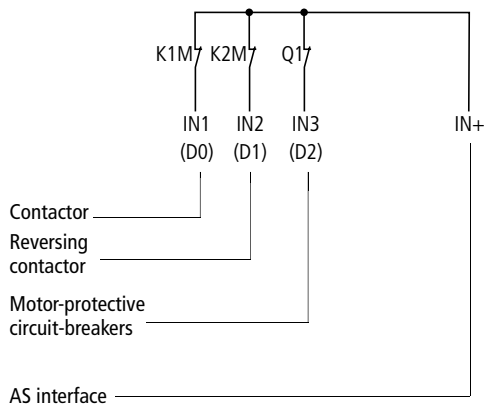


Output assignment

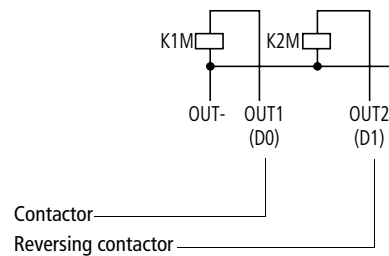


**Reversing starters**

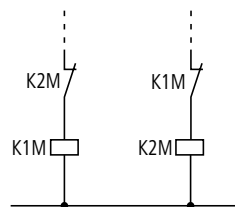
Input assignment



Output assignment



**Reversing starter interlock programming**



$$OUT1 = \dots \wedge \overline{START2} \wedge IN2 \wedge \overline{OUT2}$$

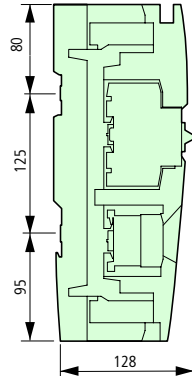
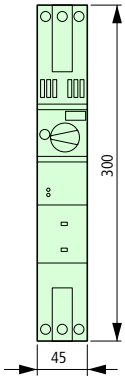
$$OUT2 = \dots \wedge \overline{START1} \wedge IN1 \wedge \overline{OUT1}$$



Standard

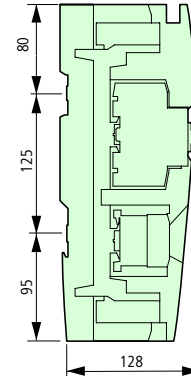
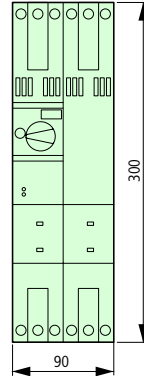
DOL starters

XS1-DS0-340-...  
XS1-DS0-341-...



Reversing starters

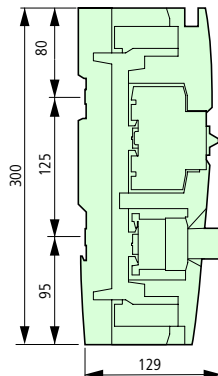
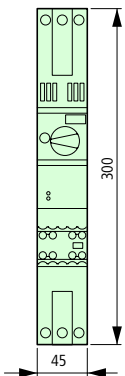
XS1-RS0-340-...  
XS1-RS0-341-...



Safety version

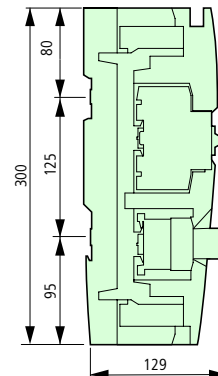
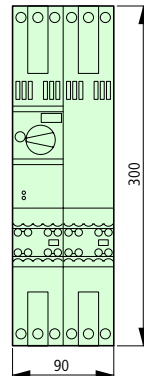
DOL starters

XS1-DS1-340-...



Reversing starters

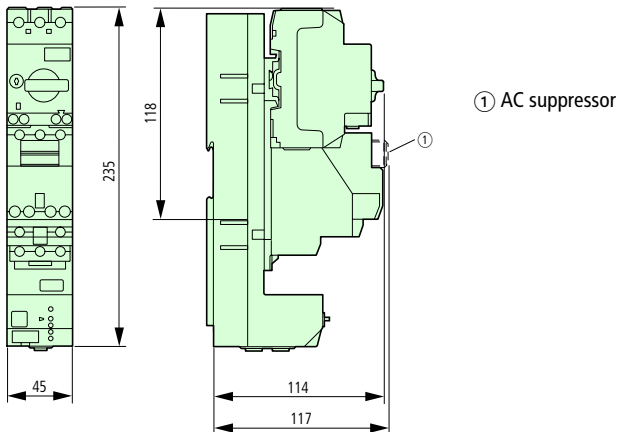
XS1-RS1-340-...  
XS1-RS1-341-...



Moeller HPL 0211-2004/2005

**KLAS open compact starter**

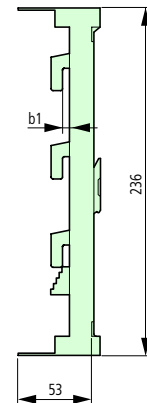
KLAS21-0.06...4-S-AC(DC)



Type	Weight [kg]
KLAS21-0.06...4-S-AC(DC)	0.85

**Busbar adapters**

KLAS21-...+KLAS-XAD45-5(10)  
KLAS32-...+KLAS-XAD90-5(10)

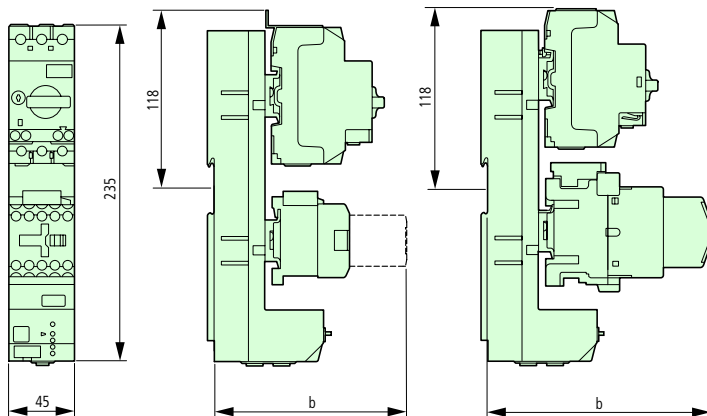


Type	b1	Weight [kg]
+KLAS-XAD45-5	5	0.18
+KLAS-XAD45-10	10	0.20
+KLAS-XAD90-5	5	0.36
+KLAS-XAD90-10	10	0.40

**KLAS open DOL starters**

KLAS21-0.06...2.2-AC(DC)

KLAS21-4...7.5-AC(DC)

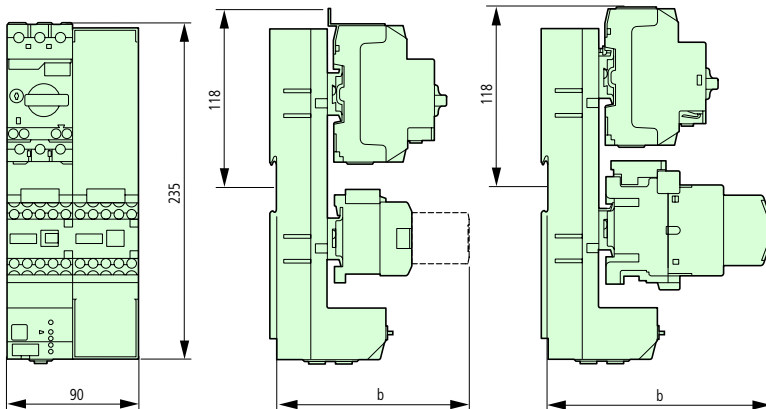


Type	b	Weight [kg]
KLAS21-0.06...2.2-AC	127	0.76
KLAS21-0.06...2.2-DC	127	0.73
KLAS21-4...5.5-AC	149	0.91
KLAS21-4...5.5-DC	174	1.09
KLAS21-7.5-AC	155	1.09
KLAS21-7.5-DC	180	1.44

**KLAS open reversing starters**

KLAS32-0.06...2.2-W-AC(DC)

KLAS32-4...7.5-W-AC(DC)



Type	b	Weight [kg]
KLAS32-0.06...2.2-W-AC	127	1.30
KLAS32-0.06...2.2-W-DC	127	1.36
KLAS32-4...5.5-W-AC	149	1.60
KLAS32-4...5.5-W-DC	174	2.08
KLAS32-7.5-W-AC	155	1.96
KLAS32-7.5-W-DC	180	2.58

