



LINDE POWER MODULES

ELECTRIC DRIVES

Safety

Linde power modules are serially produced components that are precisely matched for maximum safety. Sensors record safety-relevant parameters, such as temperature. Furthermore, current and voltage are continuously monitored.

Performance

The custom-made modules for Linde electric motors achieve a high level of efficiency. As a result of vector control in four-quadrant operation, the motor can also function as a generator by converting kinetic energy into electrical power. Increased performance is provided by intelligent speed or torque control.

Comfort

Simple integration into the existing vehicle design and maintenance-free operation provide the highest possible level of

convenience. Inverters and electric motors are optimally matched for economical operation. Because these are serially produced Linde components, delivery times are short.

Reliability

Despite their low procurement costs, these power modules are extraordinarily robust. Tried and tested thousands of times in practice, users can depend on their functionality and proven Linde quality.

Productivity

The modules allow operators to increase their productivity and efficiency with very little effort. Project integration is swift, and the vehicles are immediately ready to start without a warm-up phase. Energy is only consumed during actual operation and can be fed back into the battery during braking (energy recovery). Depending on the installation environment, various options are available for inverter cooling.

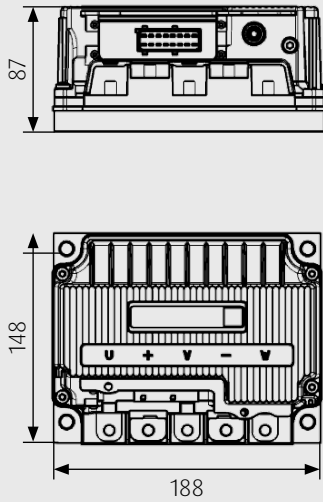
TECHNICAL DATA

POWER MODULE

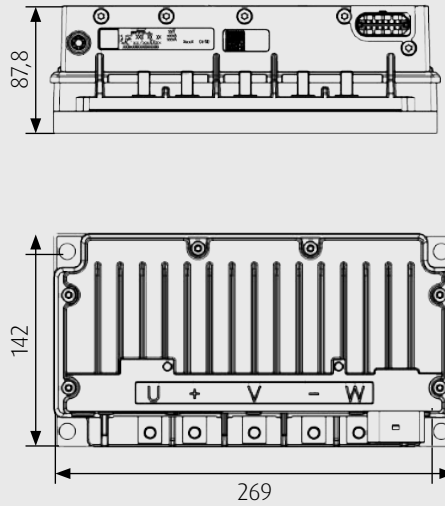
Name	Linde Part Number	Nominal Battery Voltage	Nominal Signal Voltage	Max. Current			Cooling	Plug
				permanent	5 min.	3 sec.		
PM AC S10	390 350 38 **	24 - 48 VDC	12 VDC	280 A	450 A	550 A	Platte	SAAB sf16
	390 350 38 **	24 - 48 VDC	12 VDC	280 A	450 A	550 A	Kühlkörper	SAAB sf16
	2880 360 57 **	24 - 48 VDC	24 VDC	280 A	450 A	600 A	Platte	VW vf14z
PM AC S50	5152 370 41 **	24 - 110 VDC	12 VDC	300 A	500 A	570 A	Platte	VW vf14z
	5152 370 41 **	24 - 110 VDC	24 VDC	300 A	500 A	570 A	Platte	VW vf14z
PM AC T50	390 350 39 **	24 - 48 VDC	12 VDC	2 × 260 A	2 × 450 A	2 × 500 A	Platte	SAAB sf29
	2880 360 57 **	24 - 48 VDC	12 VDC	2 × 260 A	2 × 450 A	2 × 500 A	Kühlkörper	SAAB sf29

Name	Matched for Engine	Dimensions (l x w x h) in mm	Weight	IP Protection Class	Temperature Range		
					Environment	Installation Space	Baseplate
PM AC S10	IEC90 - IEC112	188 × 148 × 87	2.8 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C
	IEC90 - IEC112	188 × 162 × 122.5	4.2 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C
	IEC90 - IEC112	188 × 148 × 87	2.8 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C
PM AC S50	IEC90 - IEC160	269 × 142 × 88	3.8 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C
	IEC90 - IEC160	269 × 142 × 88	3.8 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C
PM AC T50	2x IEC90 - 2x IEC112	270 × 162 × 92	3.8 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C
	2x IEC90 - 2x IEC112	270 × 162 × 127	6.2 kg	IP54/IP00	-40 °C - +40 °C	-40 °C - +70 °C	-40 °C - +75 °C

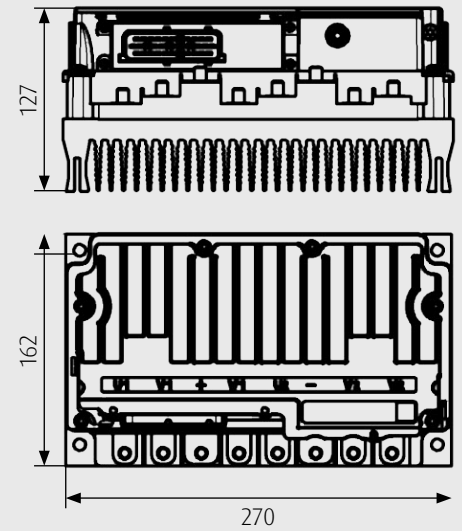
PM AC S10



PM AC S50



PM AC T50



PIN ASSIGNMENT

VW vf14z

Pin	Function	Pin	Function
1	GND	8	voltage supply
2	GND, speed sensor	9	not used
3	signal A, speed sensor	10	enable power module
4	CAN High	11	not used
5	signal B, speed sensor	12	plus, temp. sensor
6	CAN Low	13	output fan
7	sensor supply, speed sensor	14	GND, temp. sensor

SAAB sf16

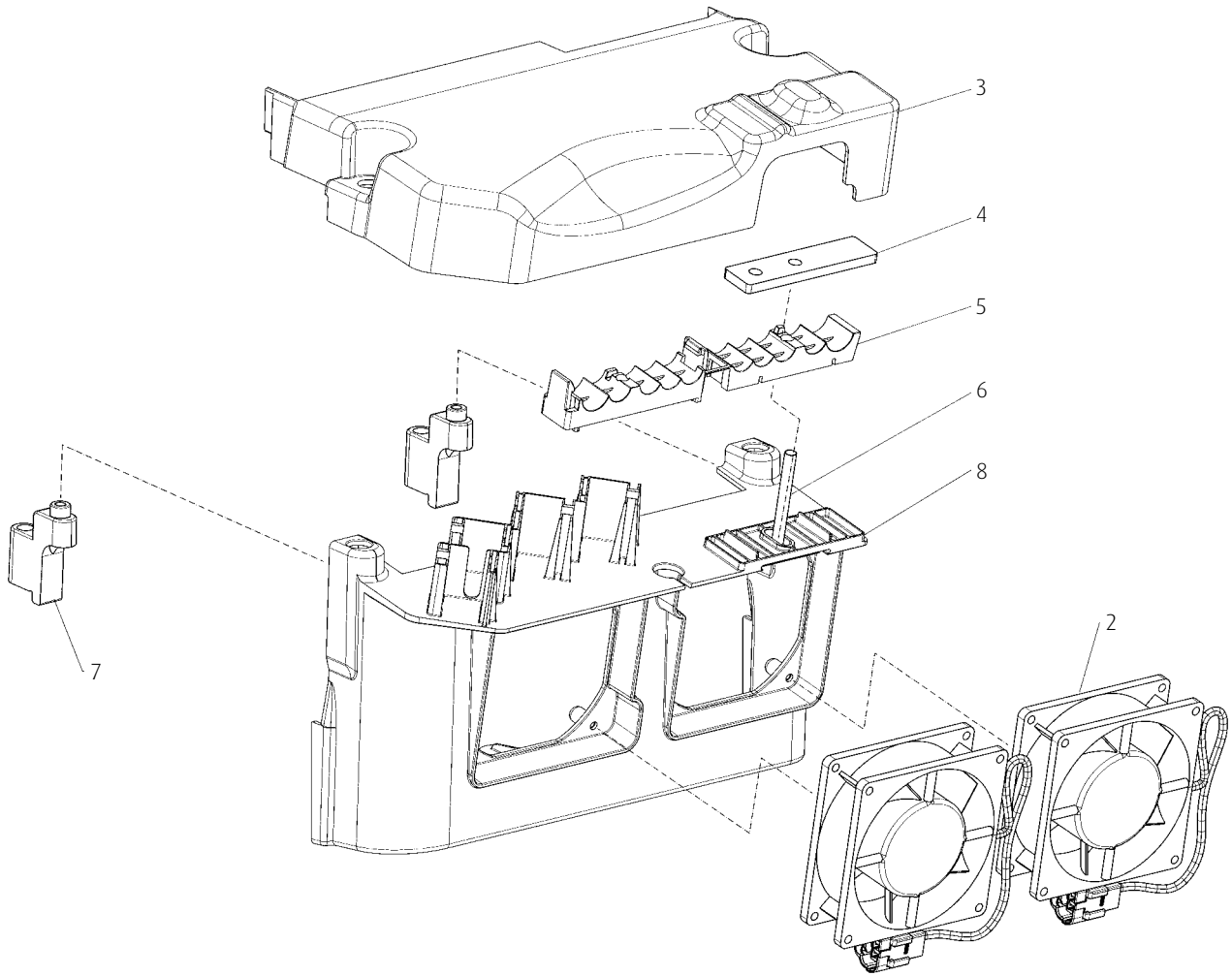
Pin	Function	Pin	Function
1	not used	9	not used
2	not used	10	not used
3	plus, temp. sensor	11	enable power module
4	GND, temp. sensor	12	enable main contactor
5	signal A, speed sensor	13	CAN high
6	signal B, temp. sensor	14	CAN Low
7	sensor supply, speed sensor	15	voltage supply
8	GND, speed sensor	16	GND

SAAB sf29

Pin	Function	Pin	Function	Pin	Function
1	CAN low	14	enable PM2	22	signal A, speed sensor PM2
2	CAN High	15	GND, temp. sensor, PM2	23	sensor supply, speed sensor PM2
3	voltage supply	16	not used	24	GND, temp. sensor PM1
4	CAN bus termination	17	not used	25	plus, temp. sensor PM1
5-10	not used	18	enable PM1	26	GND, speed sensor PM1
11	GND	19	enable main contactor	27	signal B, speed sensor PM1
12	plus, temp. sensor, PM2	20	GND, speed sensor PM2	28	signal A, speed sensor PM1
13	not used	21	signal B, speed sensor PM2	29	sensor supply, speed sensor PM1

OPTIONAL EQUIPMENT

FAN KIT



Position	Component	Part Number	Quantity
2	Axial Blower	000 976 14 30	2
3	Cowling	387 352 01 00	1
4	Joining Plate	000 918 52 55	1
5	Clamping Piece	386 363 22 13	1
6	Retainer Plate	000 918 71 28	1
7	Support	386 352 00 01	2
8	Air Duct	387 352 02 00	1

EXAMPLES OF APPLICATIONS



Rotrac E2 und E4, Zwiehoff

- Speed: 6 km/h
- Weight: 3.8 t
- Batterie: 48 V 620 Ah or 80 V 930 Ah (lead acid)
- Range: ~ 8 h
- Drive train: 36 kW (Boost: 106 kW) or 50 kW (Boost: 150 kW) + 17 kW

Components

- 2 × AE18 bzw. 2 × AE50 + EPM 132 LL 150
- 2 × PM AC T50 bzw. 5 × PM AC S50
- LINC2
- Central electric
- Hydraulic system
- HMI



Cargo Master, Laweco

- Speed: 12 - 15 km/h
- Weight: 15 - 21 t
- Battery: 80 V 930 Ah (lead acid)
- Range: ~ 8 h (12 planes)
- Drive train: 50 kW

Components

- 2 × EPM 160 LL 180
- 2 × PM AC S50
- LINC1
- Central electric
- HMI



eHoftrac, Weidemann

- Speed: 16 km/h
- Weight: 2.2 t
- Batterie: 48 V 240 Ah (lead acid)
- Range: ~ 4 h
- Drive train: 7 kW + 8.5 kW

Components

- EDM 112 LL 150
- EPM 132 LL 150
- PM AC T50
- LINC2
- Central Electric



E-Kart, C.R.G. - eDrenaline

- Speed: 80 km/h
- Weight: 200 kg
- Batterie: 48 V 104 Ah (lithium polymer)
- Range: ~ 1 h
- Drive train: 5.2 kW (Boost: 12 kW)

Components

- 2 × EDM 90 LL 70
- PM AC T50
- LINC2
- Central electric
- HMI



Small electric Truck, Power Plaza Peace

- Speed: 105 km/h
- Weight: 740 kg
- Batterie: 80 V 222 Ah (lithium)
- Range: ~ 150 km
- Drive train: 16.3 kW (Boost: 28 kW)

Components

- EDM 132 LL 150
- PM AC S50
- LINC1
- Central electric
- HMI



Sweeper, Val'Air

- Speed: max. 30 km/h (Working: 10 km/h)
- Weight: 1.86 t
- Batterie: 110 V (lithium)
- Range: ~ 8 h
- Drive train: 32.6 kW (Boost: 56 kW)

Components

- 2 × EDM 132 LL 150
- 2 × PM AC S50
- LINC1
- Central electric
- HMI

Presented by:

Subject to modification in the interest of progress. Illustrations and technical details could include options and not binding for actual constructions. All dimensions subject to usual tolerances.



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