

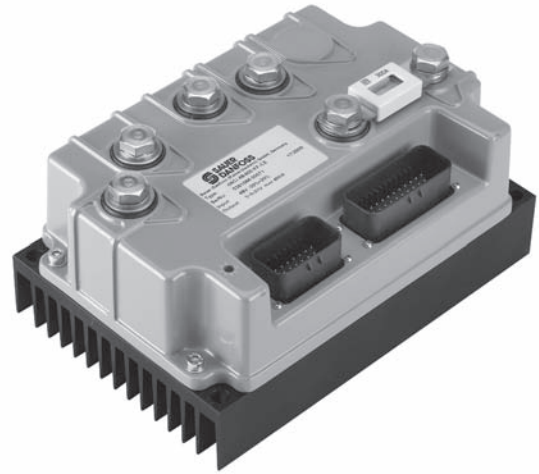


## AC motor controller dACi® Series F inverter

### AC MOTOR CONTROLLER

The dACi® Series F inverter is designed to be used on single drive or dual drive traction systems and for pump actuation. Together with Sauer-Danfoss induction motors type TSA the motors and inverters are matched and optimized to achieve best performances.

The Sauer-Danfoss inverter, dACi® Series F, leaves ample space for other components on your application. Series F is among the smallest inverters available on the market. Still, it is packed with the latest in inverter technology. For example, it features CAN-based communication for optimized machine control and includes a new driver board that manages all external devices – including horns, valves, and electro-mechanical brake – thereby securing easy and cost-effective wiring. It is also designed with AmpSeal connector, and Insulated Metal Substrate (IMS) technology.



F301252

### Features:

- CAN-based communication for optimized machine control
- AmpSeal connector for enhanced machine reliability
- IMS technology for improved power control
- Setup via CAN bus or Windows based via laptop

## TECHNICAL DATA

Type: dACi	24/360	24/480	36/300	36/400	48/300	48/400	80/260
Size	F6	F8	F6	F8	F6	F8	F8
Nominal battery voltage [V]	24		36		48		80
Input voltage range [V]	(12 for t<50 ms) 16..36		18..50		24..62		40..105
Nominal current [A] <sup>1)</sup>	180	240	150	200	150	200	130
Maximum current [A] <sup>2)</sup>	360	480	300	400	300	400	260
Peak current [A] <sup>3)</sup>	400	520	330	440	330	440	300
Output voltage [V] <sup>4)</sup>	3 x 0..16		3 x 0..24		3 x 0..32		3 x 0..53
Dimensions mm [in]	W	150 [5.91]	150 [5.91]	150 [5.91]	150 [5.91]	150 [5.91]	150 [5.91]
	H	225 [8.86]	225 [8.86]	225 [8.86]	225 [8.86]	225 [8.86]	225 [8.86]
	D	120 [4.72]	120 [4.72]	120 [4.72]	120 [4.72]	120 [4.72]	120 [4.72]
Power connectors	M10	M10	M10	M10	M10	M10	M10

### Interface, standard version

Type: dACi	24/xxx	36/xxx 48/xxx	80/xxx
7 Digital Inputs (X1:1, 2, 3, 4, 5, 6, 28)	high active		
1 Analog Input (X1:29) [V]	0...10		
Digital outputs			
Main contactor driver output (X1:26)	low-side-switch with inverse diode		
Maximum current [A]	3.0 <sup>7)</sup>	1.5 <sup>7)</sup>	1.5 <sup>6)</sup>
Magnetic brake driver output (X1:25)	low-side-switch with inverse diode		
Maximum current [A]	3.0 <sup>7)</sup>	1.5 <sup>7)</sup>	1.5 <sup>6)</sup>
3 Programmable on/off outputs (X1: 15,16,27)	low-side-switch with inverse diode		
Maximum current [A]	3.0 <sup>7)</sup>	1.5 <sup>7)</sup>	1.5 <sup>6)</sup>
1 Output for proportional valves (X1:14)	low-side switches with inverse diodes current controlled, superposed with dither-signal		
Current range [A]	0..2.0 <sup>7)</sup>	0..2.0 <sup>7)</sup>	0..2.0 <sup>6)</sup>
Dither signal	62.5 Hz; 0...300 mA		
Incremental encoder 1 (X1: 11, 22, 32, 33)			
Level [V]	0 / 15 V, A, B (e.g. sensor bearing)		
Supply	15 V, max 50mA		
Motor temperature sensor (X1: 10, 21)			
Type	PTC		
Serial interface			
RS 485 (X1: 7, 12, 23, 30)			
CAN (X1: 8, 9, 19, 20, 34, 35)	V2 0B		

### Others

Ambient temperature range	-40°C ... 50°C [-40°F ...122°F]
Max. heat-sink temperature @ full current	85°C [185°F]
Heat-sink switch off temperature	100°C [212°F]
Relative humidity	100%, condensation is allowed
Signal line connectors	AMP-Seal; Molex mini-fit junior optional
IP protection	IP 64 with membrane
EMC / ESD	EN 12885
safety	EN 1175
UL	UL 583

### Optional Interface extension

Type: dACi	24/xxx	36/xxx 48/xxx	80/xxx
4 Digital Inputs (X2:7, 8, 14, 15)	high active		
1 Analog Input (X2:2) [V]	0...10		
1 Analog Input (X2:3 ; X2:11) [V]	-10 ... +10		
1 Analog Input (X2:4 ; X2:12) [mA]	-20 ... +20		
2 Programmable on/off outputs (X1: 16,17)	low-side-switch with inverse diode		
Maximum current [A]	3.0 <sup>7)</sup>	1.5 <sup>7)</sup>	1.5 <sup>6)</sup>
2 Output for proportional valves (X10: 18)	low-side switches with inverse diodes current controlled, superposed with dither-signal		
Current range [A]	0..2.0 <sup>7)</sup>	0..2.0 <sup>7)</sup>	0..2.0 <sup>7)</sup>
Dither signal	62.5 Hz; 0...300 mA		
2 Programmable digital inputs or digital outputs (X2: 22, 23)			
Incremental encoder 1 (X2: 5, 13, 19, 20)			
Level [V]	0 / 15 V, A, B (e.g. sensor bearing)		
Supply	15 V, max 50mA		

- 1) @ 8 kHz switching frequency
- 2) S2 - 2 min.
- 3) For 10 s
- 4) @ input voltage = nominal battery voltage
- 6) Without overload and short circuit protection, but with open circuit detection.
- 7) Without overload and short circuit protection and open circuit detection.