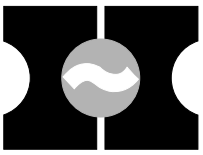


VARIICON



**The motor-integrated
inverter**





VARICON: the variable-speed drive unit with field bus or PLC connection

There is no longer any need for long leads between the frequency inverter and the motor. External line and motor filters are also unnecessary, since complete interference suppression is already integrated.

The effort required for installation is comparable with that of a simple motor.

The efficiency characteristics have been optimized for the Type of motor concerned in each case.

The drives are available with PLC, InterBus-S or Profibus-DP-Interface as a standard feature.

The drive parameters are pre-adjusted.

PLC interface

In addition to the 24 V control inputs, the PLC interface also includes an analog input and a serial data interface (RS 485) Optional: special interface with fan control and actual speed output interface.

The signal relays are configurable. 13 functions are available.

All control ports, including the serial Interface, are electrically isolated. The power is supplied from either internal or external sources.

Advantages for the user:

- Analog input
- Configurable outputs
- Potential-free 24 V and 10 V power source for the input
- Adaption to the specific application via the Control unit

VARICON with Fieldbus profile

InterBus-S or Profibus-DP

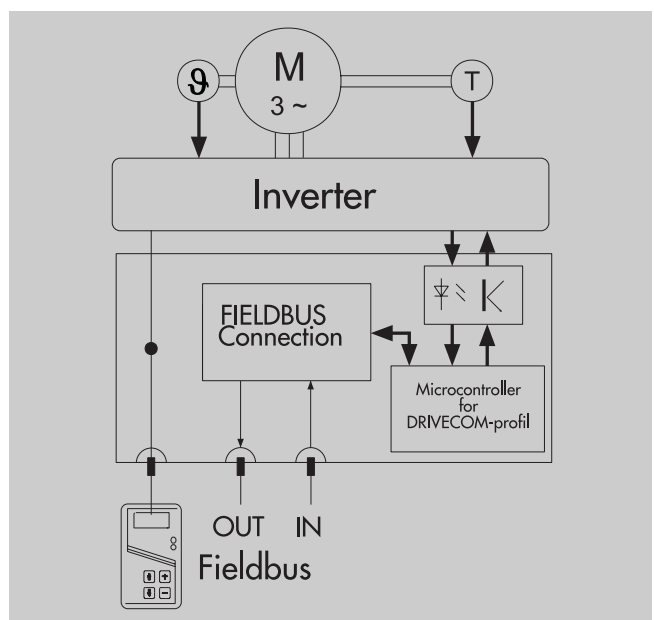
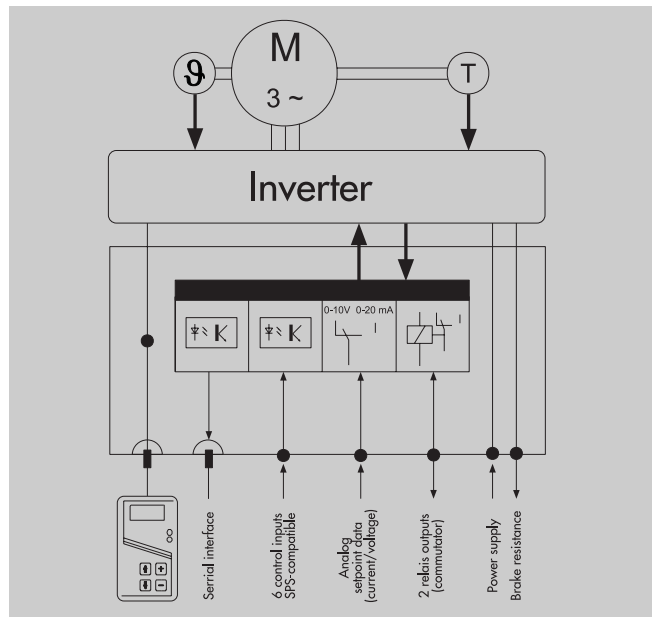
The effort required for installation is negligible: simply plug in the bus cable and connect to the power supply. It goes without saying that VARICON with InterBus-S Interface supports the DRIVECOM profile 21.

Advantages for the user:

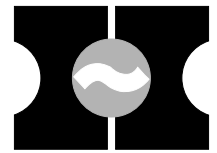
- Easy installation
- Low installation costs
- Plug-in bus cable
- Direct connection to the fieldbus

Advantages:

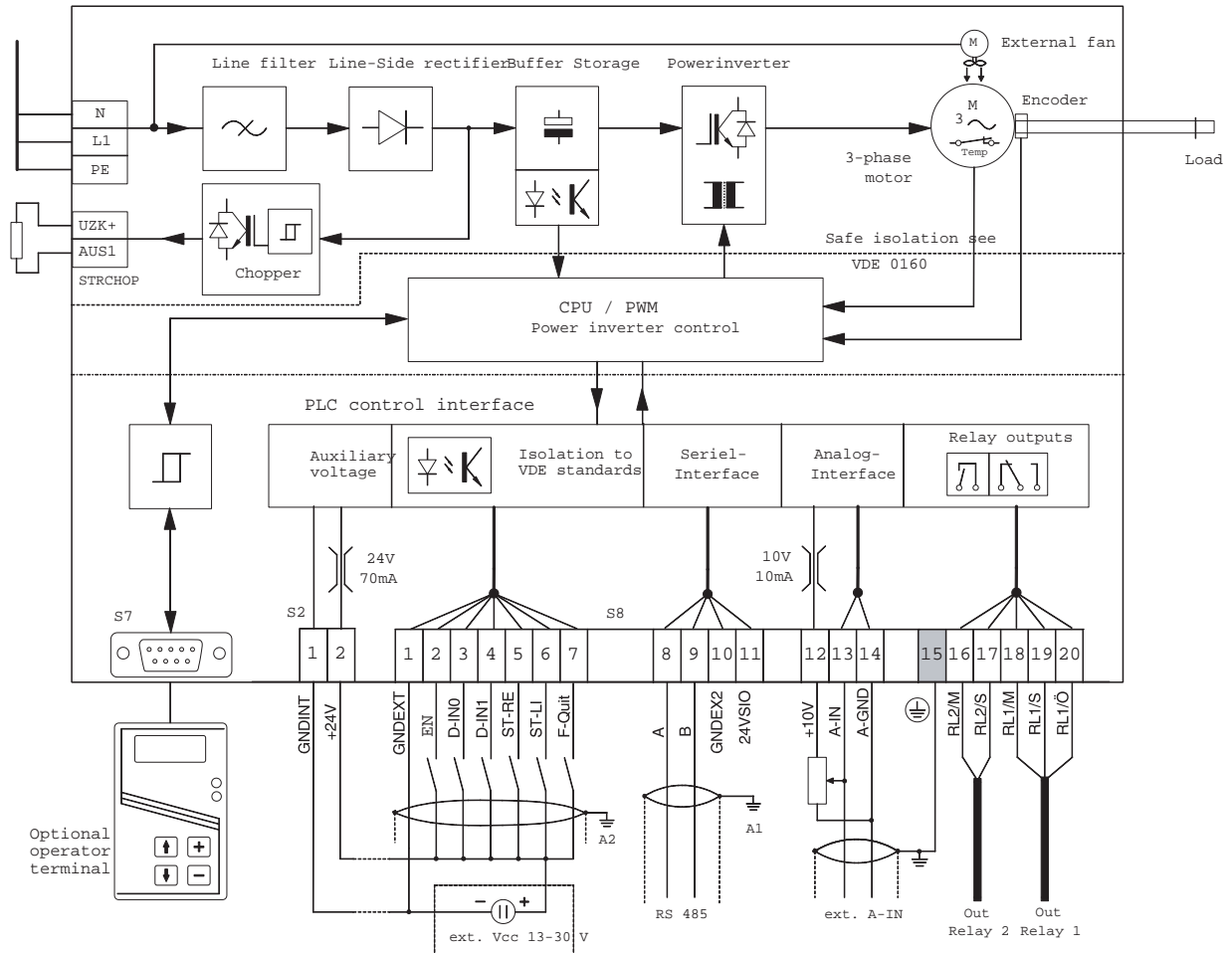
- Easy installation
- 16 kHz switching frequency for low-noise operation
- Direct PLC or InterBus-S connection
- High protection system IP 54
- Coordinated ventilation system
- No additional components required for conformity to EMC regulations
- Conforms to CE standards
- Possibility of changing quickly from one set of drive parameterisation to another via master computer
- Network via serial interface



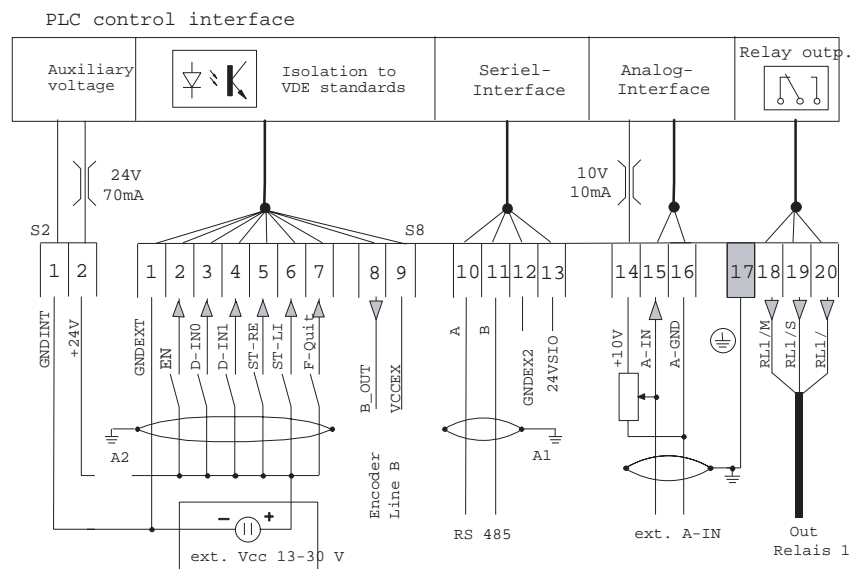
Technical modifications reserved.



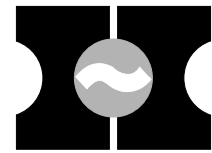
Block circuit diagram



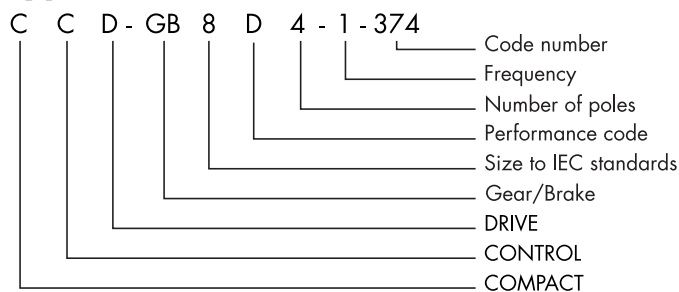
PLC-Interface with SIO RS 485



PLC-Interface with fan control



Typ code:



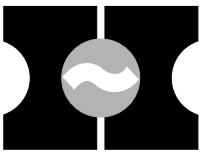
Options:

- Control unit
- InterBus-S-, Profibus-Interface, other Bus-systems on request
- Interface adapter RS 485/RS 232
- Braking resistor
- Brake
- PC operating program
- Drive control
- dual track incremental encoder
- indication of actual speed
- Gear
- Setpoint potentiometer
- Mains switch

Technical data:

VARICON drives		0,18/0,37/0,55 kW	0,75/1,1 kW	1,5/2,2 kW	
Power supply	Voltage	230 V ± 10%	230 V ± 10%	400 V ± 10%	
	Frequency	47-63 Hz	47-63 Hz	47-63 Hz	
	Interference suppression filter to EN 61800-3	Integrated, limit value class "B"	Integrated, limit value class "B"	Integrated, limit value class "B"	
	Fuses external	5 AT/8 AT	16 AT	8 AT/12,5 AT	
Output	Switching frequency	16 kHz	16 kHz	16 kHz	
Ambient conditions	Temperature	0-40 °C	0-40 °C	0-40 °C	
	Cooling	Integrated cooling fans	Integrated cooling fans	Integrated cooling fans	
	Installation height	Up to 1000 m above sea level	Up to 1000 m above sea level	Up to 1000 m above sea level	
Safety functions	Overcurrent protection	by current limitation	by current limitation	by current limitation	
	Overheating	Temperature sensor in motor and inverter	Temperature sensor in motor and inverter	Temperature sensor in motor and inverter	
	Voltage monitoring	Shutdown following over/under voltage. Overvoltage causes frequency increase	Shutdown following over/under voltage. Overvoltage causes frequency increase	Shutdown following over/under voltage. Overvoltage causes frequency increase	
	Line fluctuation compensation	Voltage control	Voltage control	Voltage control	
	Breakdown prevention 1)	by slip monitoring	by slip monitoring	by slip monitoring	
Control inputs	Electr. construction	Digital, PLC-compatible	Digital, PLC-compatible	Digital, PLC-compatible	
PLC-Interface	Setpoint	analog	0 - 10 V, 0 - 20 mA; 2 - 10 V, 4 - 20 mA	0 - 10 V, 0 - 20 mA; 2 - 10 V, 4 - 20 mA	0 - 10 V, 0 - 20 mA; 2 - 10 V, 4 - 20 mA
		digital	RS 485	RS 485	RS 485
			2 inputs for 4 constant set points	2 inputs for 4 constant set points	2 inputs for 4 constant set points
	set value constancy		analog < 1%, digital < 0,02%	analog < 1%, digital < 0,02%	analog < 1%, digital < 0,02%
	Ramps		can be programmed within the frequency ranges	can be programmed within the frequency ranges	can be programmed within the frequency ranges
	Hardware-Enable		active high	active high	active high
	Preselection direction of rot.		2 inputs for start left, start right	2 inputs for start left, start right	2 inputs for start left, start right
	Fault acknowledgement		active high	active high	
Control outputs	Control output	2 relais*, 1 jumper contact 250 V / 1 change-over contact max. 250 V / 2 A; switch power 60 VA, 13 functions can be configured			
	Voltage source	10 V DC / max. 10 mA 24 V DC / max. 70 mA	10 V DC / max. 10 mA 24 V DC / max. 70 mA	10 V DC / max. 10 mA 24 V DC / max. 70 mA	
Mechanical construction	Degree of protection	IP 54, on request also IP 55	IP 54, on request also IP 55	IP 54, on request also IP 55	
Brake chopper	Transistor and measuring circuit	integrated, I _{max} = 2 A for 10 s (all 60 s) I _{max} = 0,5A in perm. operation	integrated, I _{max} = 2 A for 10 s (all 60 s) I _{max} = 0,5A in perm. operation	external	
	Ext. impedance	> 150 Ω	> 150 Ω	> 330 Ω	
Standards		VDE 0530, VDE 0160, VDE 0106; EN 61800-3, EN 50178	VDE 0530, VDE 0160, VDE 0106; EN 61800-3, EN 50178	VDE 0530, VDE 0160, VDE 0106; EN 61800-3, EN 50178	

*) in case of fan control, only 1 relay
 1) only with option speed control

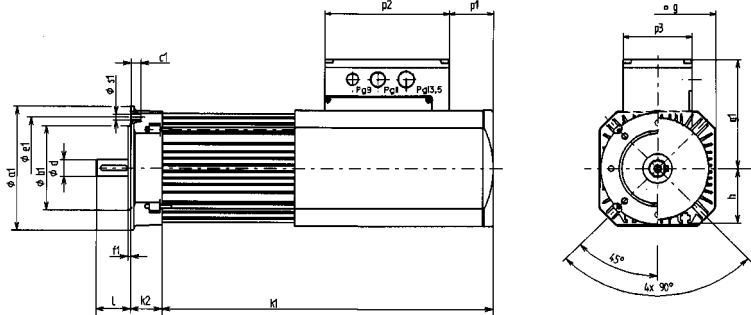


Motor data

Rated Power [kW]	Type	Nominal torque [Nm]	Nominal speed [1/min]	Speed range [1/min]	Overall length k1	Moment of inertia [kgm ²]	System efficiency [%]	Rated current [A]	Weight [kg]
0,18 for 1~AC 230 V +/-10%	CCD-8AU4-2 ²⁾	0,6	2890	0-4500	270	0,00055	61	2,0	7,0
0,37 for 1~AC 230 V +/-10%	CCD-8C2-2 ¹⁾	0,61	5800	0-9000	325	0,00029	64	3,8	8,3
	CCD-8C4-2	1,22	2900	0-4500	325	0,00055	64	3,6	8,3
	CCD-8C4-1 ¹⁾	2,52	1400	0-2250	325	0,00092	62	4,5	9,9
0,55 for 1~AC 230 V +/-10%	CCD-8D2-2	0,91	5770	0-9000	325	0,00037	66	5,6	8,7
	CCD-8D4-2	1,81	2900	0-4500	325	0,00089	68	5,4	9,5
	CCD-8D4-1	3,75	1400	0-2250	355	0,00116	69	5,3	10,5
	CCD-8D6-1	5,84	900	0-1500	355	0,00152	63	5,9	11,9
0,75 for 1~AC 230 V +/-10%	CCD-8F2-2	1,23	5800	0-9000	325	0,00047	68	7,4	9,5
	CCD-8F4-2	2,49	2890	0-4500	355	0,00116	68	7,4	10,6
	CCD-8F4-1	5,19	1380	0-2250	355	0,00157	72	7,0	11,9
1,1 for 1~AC 230 V +/-10%	CCD-8G2-2	1,81	5800	0-9000	355	0,00064	70	10,6	10,7
	CCD-8G4-2	3,60	2910	0-4500	395	0,00188	68	10,9	13,4
	CCD-8G4-1	7,60	1380	0-2250	395	0,00225	69	10,7	15,6
1,5 for 3~AC 400 V +/-10%	CCD-8H2-2*	2,62	5820	0-9000	365	0,00083	71	5,0	12,9
	CCD-8H4-2*	4,94	2900	0-4500	395	0,00230	70	5,2	15,6
	CCD-8H4-1*	10,40	1370	0-2250	395	0,00230	70	5,6	17,0
2,2 for 3~AC 400 V +/-10%	CCD-8I2-2*	3,62	5800	0-9000	395	0,00099	70	7,3	14,5
	CCD-8I4-2*	7,27	2890	0-4500	395	0,02200	72	7,6	15,4

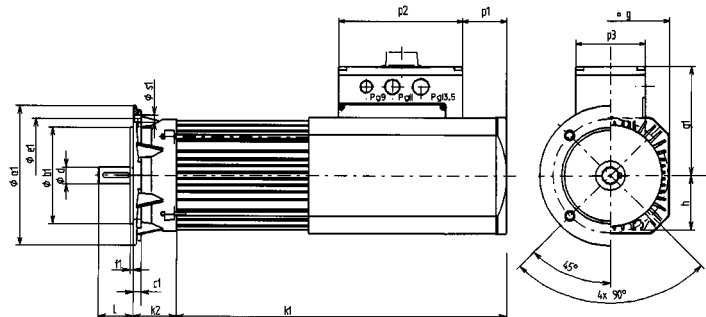
* Shaft dimension 24 x 50 mm ¹⁾ in just prepared ²⁾ without separate fan

Dimensions and available flange to DIN 42948

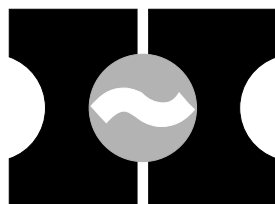


Flange size	B14/V18/V3															l
	a1	s1	b1 _{is}	c1	d ^{k6}	e1	f1	g	g1	h	p1	p2	p3	k2	k1	
C90	90	M5	60	8	11	75	2,5	144	138	67,5	55 ³⁾	155	90	31	see table motor data	23
C105	105	M6	70	8	19/24*	85	2,5	144	138	67,5	55	155	90	35		40/50*
C120	120	M6	80	9	19/24*	100	3	144	138	67,5	55	155	90	35		40/50*
C140	140	M8	95	10	19/24*	115	3	144	138	67,5	55	155	90	35		40/50*
C160	160	M8	110	12	19/24*	130	3,5	144	138	67,5	55	155	90	35		40/50*

³⁾ 0,18 kW Motor p1 = 0



Flange size	B5/V18/V3																l
	a1	s1	b1 _{is}	c1	d ^{k6}	e1	f1	g	g1	g2	h	p1	p2	p3	k2	k1	
A160	160	8,5	110	9	19/24*	130	3,5	144	138	158	67,5	55	155	90	46	see table motor data	40/50*
A200	200	10,5	130	10	19/24*	165	3,5	144	138	-	67,5	55	155	90	35		40/50*



HANNING
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