SFC

ST 300
0,37-7,5 kW

FUMEX
PURE ADVANTAGE

General

This manual is a quick aid for easy programming of the frequency converter together with the pressure transmitter **ST 300** and shall not be seen as a complete product manual.

Function

All programming is executed on the keys at the front display (see **Fig. 1**). The jog dial (1) is used for navigating the menus and to select or confirm information. The ESC key (2) quits a menu/ parameter or clears and reverts the value. The front panel is opened via button (3).
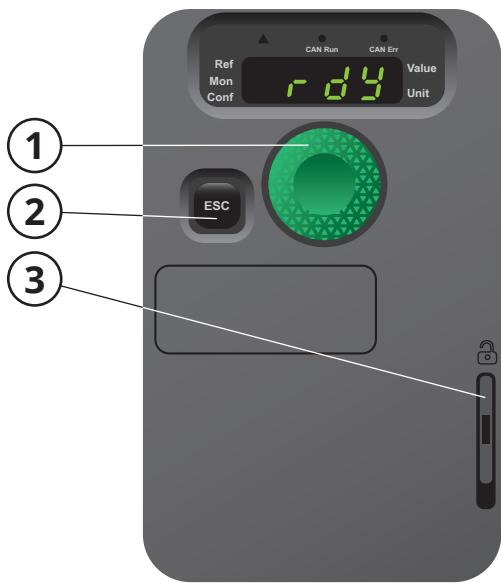
Fig. 1

Parameter choice

For parameter choice, see **Fig. 2**.

Fig. 2

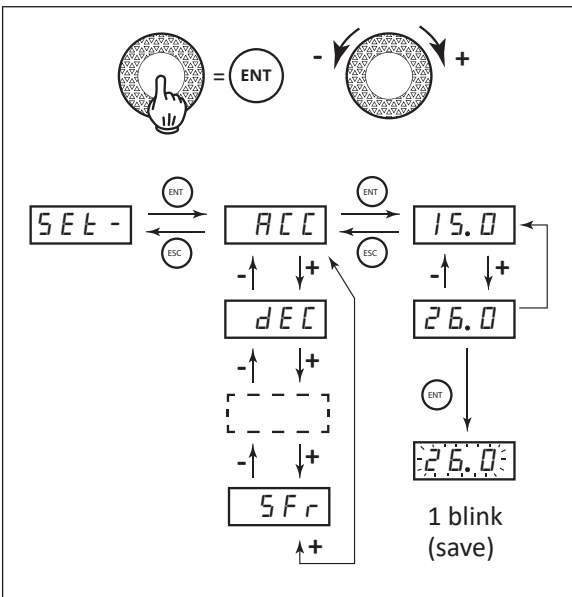## Electrical wiring

The supply voltage is connected to terminal (6) **Fig 3**. The supply cable for the fan motor is connected to terminal (7). The start signal is wired between DI1 and +24 at terminal (8). The signal from the pressure transmitter is wired between COM, AI1 and +24 at terminal (8, 9).
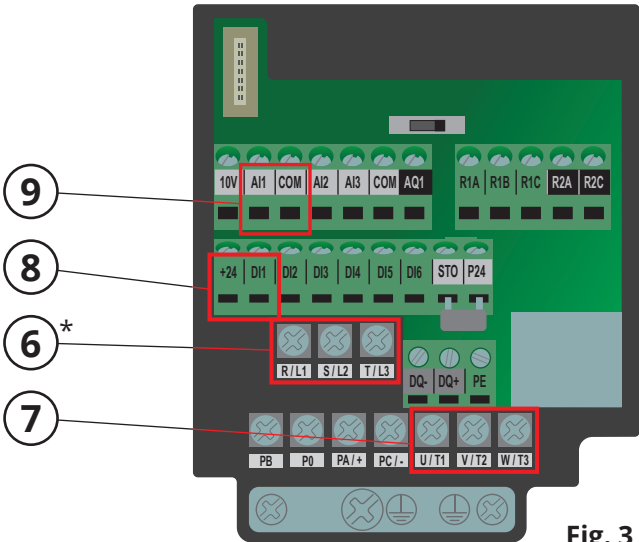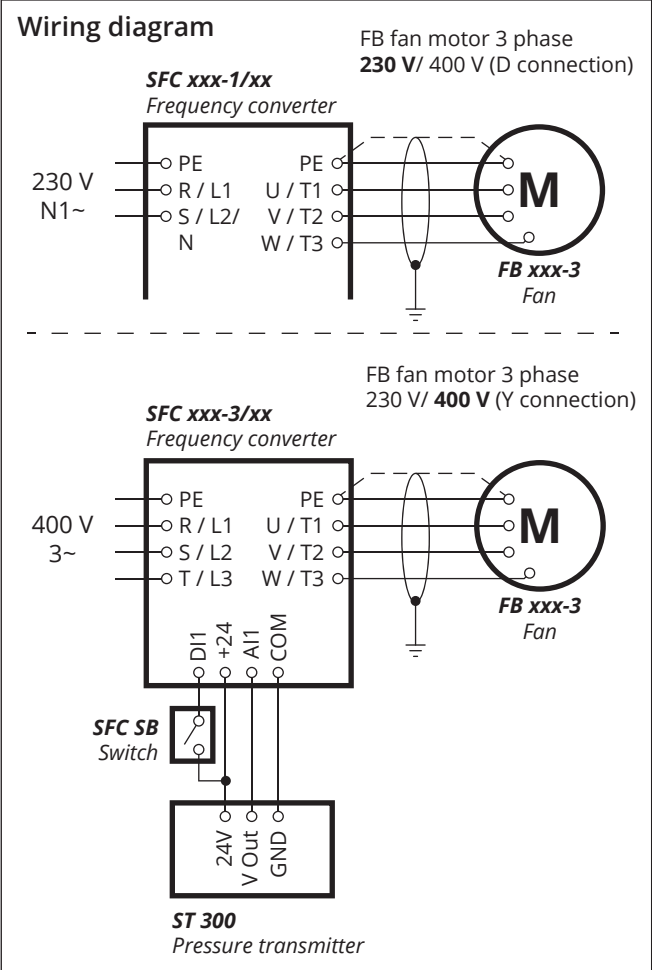
Fig. 3

* When the supply is 1 phase, the terminals are marked "R/L1" and "S/L2/N".

When the supply is 3 phase, the terminals are marked "R/L1", "S/L2" and "T/L3".

Wiring diagram

FB fan motor 3 phase
230 V/ 400 V (D connection)

SFC xxx-1/xx
Frequency converter

230 V
N1~

FB xxx-3
Fan

FB fan motor 3 phase
230 V/ **400 V** (Y connection)

SFC xxx-3/xx
Frequency converter

400 V
3~

FB xxx-3
Fan

SFC SB
Switch

ST 300
Pressure transmitter

Programming

Program all parameters as per the programming guide. Start from the top (and go down) accordingly. During the programming, the fan must not receive any start signal. This means that DI1 and +24 (8) cannot be a closed circuit.

Note! The green parameters can be changed, to optimise current system. The red parameters can be found on the motor. The blue parameter "rPI" indicates desired pressure in the exhaust air duct. Please check value on pressure transmitter **ST 300**.

Menu	Sub menu	Parameter	Function	Factory settings	Recommend. value	Chosen value
ConF	FULL	-	Access to configuration	-	-	
drC-	CEE	-	Variable torque	SEd	UF9	
CEL-	Fr1	-	Change of reference source	A11	A12	
SIM-	-	bFr	Motor frequency (Hz)	50	Varies	
SIM-	-	UnS	Nominal motor voltage (V)	-	Varies	
SIM-	-	FrS	Nominal motor frequency (Hz)	500	Varies	
SIM-	-	nCr	Nominal motor current (A)	-	Varies	
SIM-	-	nSP	Nominal motor speed (rpm)	1400	Varies	
SIM-	-	ACC	Acceleration (s)	30	5.0	
SIM-	-	dEC	Retardation (s)	30	5.0	
SIM-	-	LSP	Min. frequency (Hz)	0.0	15.0	
SIM-	-	HSP	Max. frequency (Hz)	50.0	50.0	
SIM-	-	IEH	Thermal motor protection (A) = motor current	-	Varies	
drC-	ASY-	NPC	Motor parameter choice	nPr	COS	
drC-	ASY-	COS	Motor's Cos Phi	-	Varies	
drC-	-	SFr	Switch frequency (kHz)**	40	16	
I_O-	-	ECE	2 wire type	Ern	LEL	
FUn-	SEE-	SEE	Stop type	SEE	nSE	
FUn-	PId-	PIF	Regulation feedback	nO	A11	
FUn-	PId-	PII	Internal PI reference	nO	YES	
FUn-	PId-	PIF1	Min PID feedback	100	100	
FUn-	PId-	PIF2	Max PID feedback	1000	2000	
FUn-	PId-	PIP2	Max PID reference	900	2000	
FUn-	PId-	rPI	Internal desired value for PI regulator (Pa)	150	***	
FUn-	PId-	rPG	PI proportional amplifier	100	185	
FUn-	PId-	rIG	PI integral amplifier	100	0.20	
FLE-	FLr-	FLr	Soft restart	nO	YES	

** Only to be changed when there is unusual noise from the motor.
*** 500 Pa for laboratory extraction, 1500 Pa for industrial and exhaust extraction.

Default reset

When resetting to the factory settings, proceed as below:

If the display doesn't show rdY, press **ESC** until it does. Enter menu ConF and select parameter FCS-. Change the value from FCS1 to FrY-, confirm with **ENT**. Change ALLⅉⅉ to ALL'' by pressing **ENT**. Go back one step in the menu with **ESC** and change from FrY- to GFS. Press **ENT** and change nO to YES by pressing and holding **ENT** for 5 s.

The frequency converter will now have the initial factory settings and is ready for programming again.

Troubleshooting

⚠️ Troubleshooting when power is on, should only be performed by an authorised electrician.

Information that makes it easier to identify occurred problems that are easy to solve can be found in the troubleshooting guide. Always go through trouble shooting guide before contacting FUMEX.

TROUBLESHOOTING GUIDE		
Symptom	**Probable cause**	**Recommended measure**
1. Programming failure.	DI1 and +24 are closed.	Remove wiring.
	The parameters are not programmed in the correct order.	Program the parameters, as per the programming guide from the top to the bottom.
2. The system does not work.	The wiring is not done as per the wiring diagram.	Check the wiring.
3. Performance loss of the fan.	Wrong rotation direction of the fan.	Check rotation direction.

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