

Instructions for the hand-held micro terminal of the fan motor control system, TBLZ-2-75 SILVER C

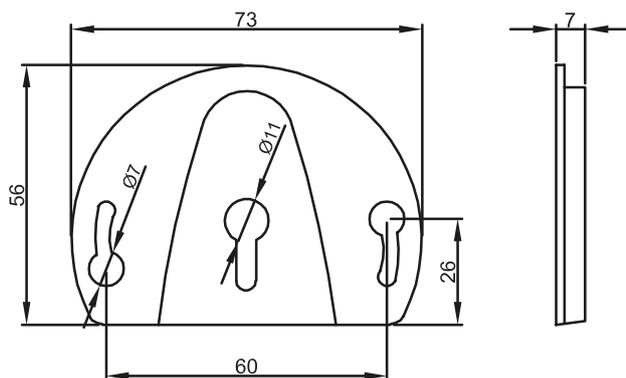
1. General

The hand-held micro terminal is used for setting the motor parameters of the SILVER C.

2. Installation

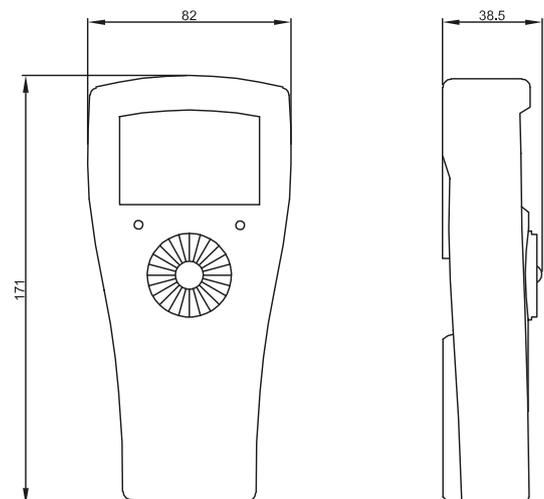
The hand-held micro terminal can be hung in the wall mounting supplied. See illustration below. Mount the wall mounting on a flat surface.

To lift the hand-held micro terminal out of the wall mounting, slide it upward and then draw it out.



3. Technical data

Supply voltage	From the motor control system's wiring terminal
Modbus RTU	2 x RJ12/6/6-pole RS485
Enclosure class	IP21
Humidity	10 – 95 % - non-condensing
Ambient temperature	-30.. +50 °C (Storage) 0.. +40 °C (in operation)
Dimensions	171 x 82 x 38.5 mm
Weight	150 g



4. Function

The hand-held micro terminal has a display screen with eight lines, a navigation knob and two LEDs.

Scrolling up and down in the menu is done by turning the adjusting knob on the hand-held micro terminal, and selections are entered by pressing on the adjusting knob. Modification of the selected values is done by turning the adjustment knob. Select "Exit" to leave the menu.

The hand-held micro terminal communicates with the motor control system via Modbus commands. Factory and user settings are stored in the control system. The settings are preserved in the memory even if the line voltage is switched off or if the hand-held micro terminal is removed.

The motor control system's function selector switch should normally be set to Position 1, but for communication with the hand-held terminal, the function selector switch should be set to Position 0.

The possible settings and displays are shown in the table on the next page.

Note that you must enter a PIN code in order to open the Config menu and in this way be able to make changes in the motor control system configuration. Contact Swegon to obtain a PIN code.

Table:

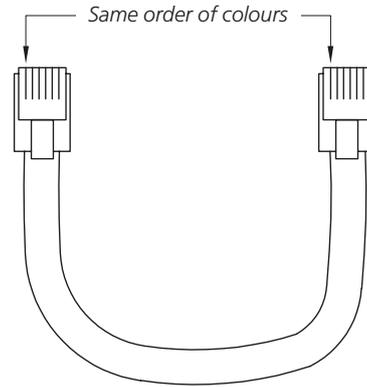
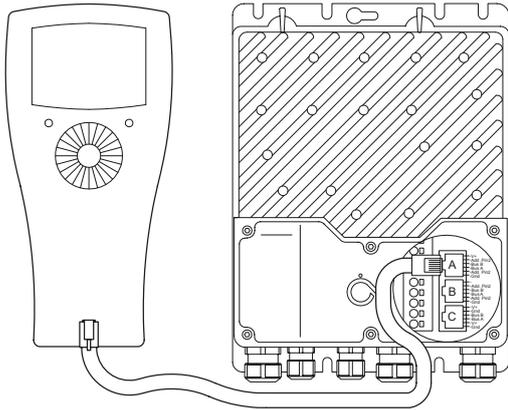
MAIN MENU	SETTINGS	DESCRIPTION	VALUE
Status	Operation	With the Hand-held micro terminal set to the "Modbus" mode, set "Start/Stop in" in the "Start/Stop"/"Control" menu.	Start/Stop
	Set Setpoint	With the Hand-held micro terminal set to the "Modbus" mode in the "Start/Stop"/"Control" menu, set the required set point in the DV in %. With the Hand-held micro terminal in the "0-10VDC" mode in the "Start/Stop"/"Control" menu, read the current setpoint in %.	0 - 100%
	% Out	Shows the current speed of rotation as a percentage of the range (See Section 10).	0 - 100 %
	Rpm Out	Shows the current speed of rotation	PM: 0 - ?* rpm
	Power	Shows current input power	0 - ?* kW
	Analogue_In 1	Shows the current voltage on the external input for adjustments	0 - 10.0 V
	Digital_In 1	Shows current status	"LO" = Active "HL" = Inactive
	Digital_In 2	Shows current status of Alarm reset	"LO" = Active "HL" = Inactive
	Digital_In 3	Shows current status of the Firemode jumper.	"LO" = Jumper connected "HL" = Jumper disconnected
	Op. time	Shows the current operating time as number of days.	0 - ? days
	Op. time	Shows the current operating time in minutes.	0 - ? minutes
	I out	Shows present output current	0 - ?* A
	V in RMS	Shows current input voltage	0 - ?* V
	Temp.	Shows the current temperature inside the control system.	? - ? °C
	FIREMODE	Activate the Fire mode. "Fire" from the hand-held micro terminal or external input have higher priority than "Normal". Important! For high internal temperature inside the DV control system, the display window backlight is turned off when "Fire" is active.	Fire / Normal
Exit	Return to the Main menu.		

Setup	Control	Selection of control signal Control = Modbus DV is controlled from the hand-held micro terminal. External signals are ignored, including: Start/Stop signal (ON/OFF), and external control signal on wiring terminals (0 - 10 V in). Control = 0-10 V DC DV is controlled from external control signals, including: Start/Stop signal (ON/OFF), The fire mode signal (Firemode) as well as the external control signal (0 – 10 V in). External stop and stop from the hand-held micro terminal have higher priority than start from the hand-held micro terminal.	Modbus / 0-10 V DC
	Rotation	Sets the current direction of rotation	Counter-clockwise
	Min. rpm	Setting of the lowest speed of rotation (See also Section 10).	PM: 0 - ?* rpm
	Max. rpm	Setting of the highest speed of rotation (See also Section 10).	PM: 0 - ?* rpm
	Up Ramp	Setting of the ramp up time (See also Section 9).	0 - ?* s
	Down Ramp	Setting of the ramp down time (See also Section 9).	0 - ?* s
	Switch Hz	Setting of the switching frequency on the output.	Auto, Low, High
	Exit	Return to the Main menu.	
Alarms	Reset Alarm	Is activated in order to reset alarms when the maximum number of restarts has been exceeded.	
	Alarm stop	Shown when the motor has stopped due to an alarm.	
	Voltage low	Shown when an alarm has been initiated due to excessively low line voltage.	
	Voltage high	Shown when an alarm has been initiated due to excessively high line voltage.	
	Phase error	Shown when an alarm has been initiated because one line voltage supply phase is missing.	
	Current high	Shown when an alarm has been initiated due to excessively high output current.	
	Current limiting	Shown when an alarm has been initiated because the current limiting function is active (e.g. if the ramp time is excessively short or if the motor is overloaded).	
	V ripple	Shown when an alarm has been initiated due to unstable line voltage.	
	Temperature high	Shown when an alarm has been initiated due to excessively high temperature in the frequency inverter.	
	Rotor Blocked	Shown when the rotor is blocked.	
	Rotation direction	Shown if the direction of rotation is wrong.	
	Internal com. error	Shown in the event of an internal communication error.	
	Internal HW fault	Shown in the event of a fault in internal hardware.	
	EEPROM error	Shown in the event of a fault in the internal memory (EEPROM)	
	Motor phase error	Shown in the event of a phase error on motor side (U, V, W)	
Brake chopper fault	Shown in the event of a fault in the brake chopper.		
Ext. 24V overload	Shown if the external 24 V input is overloaded.		
Exit	Return to the Main menu.		
Modbus	Address	Setting of the Modbus address display.	
	Baudrate	Setting of the baudrate display.	9 600, 19 200, 38 400, 115 200 Bps.
	Parity	Setting of the parity display.	None/Odd/Even
	Stop bits	Setting and display of stopbits.	1/2
	Time out	Time out, communication	0 - 200 sec.
	Exit	Return to the Main menu.	
About DV	Modbus addr	Status of the DV control system's Modbus address.	
	Drives type	Status of the type of DV control system.	1000- ?*
	MOC SW ver.	Status of the DV control system's MOC program version.	
	MOC Boot ver	Status of the DV control system's MOC boot program version.	
	AOC SW ver.	Status of the DV control system's AOC program version.	
	AOC Boot ver	Status of the DV control system's AOC boot program version.	
	I/O SW ver.	Status of the I/O module's program version.	
	HW Cfg var	Status of the hardware configuration variant	
	HW Cfg ver	Status of the hardware configuration version	
	Motor Cfg var	Status of the motor configuration variant	
	Motor Cfg ver	Status of the motor configuration version	
	Fan Cfg var	Status of the fan configuration variant	
	Fan Cfg ver	Status of the fan configuration version	
	User Cfg var	Status of the user's data variant	
	User Cfg ver	Status of the user's data version	
Hterm SW ver.	Status of the hand-held micro terminal's program version		
Exit	Return to the Main menu.		
Config	Drive configuration	Enter PIN code for access. Contact Swegon	

*= Depends on size of the connected control system

5. Electrical connections

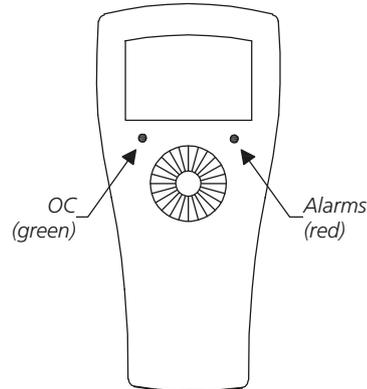
For access, unscrew the bolts that secure the blue cover on the motor control system casing. Connect the hand-held micro terminal to the motor control system's integrated wiring terminals, in Port "A". Use a bus cable, (type 6-core, unshielded, 30 AWG/0.066 mm² telecommunication cable or a similar flat cable) with RJ12/6 connectors in both ends, see the figures below.



6. Indications, LEDs

The hand-held micro terminal has two integrated LEDs (See figure) with the following function:

	Steady glow	Flashing
Red LED	-	Alarm active
Green LED	OC	Oversteering with hand-held micro terminal.



7. Alarm

For particulars of current alarms, see table in Section 4.

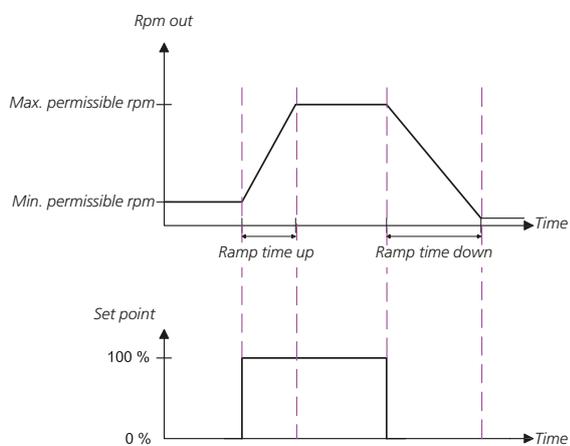
Alarms are reset automatically if the fault ceases to exist and the EC control system starts up again.

If the maximum number of restarts has been exceeded the resetting of alarms can take place by selecting "Reset Alarm" in the alarm menu. As an alternative, short-circuit Terminals 26 (GND) and 27 (Din2) on the motor control system's integrated wiring terminal or interrupt the supply voltage for the EC control system.

8. Trouble shooting

Symptoms	Cause	Action
No values in the hand-held micro terminal – Display window off	The EC control system is switched off	Start the EC control system
	Modbus cable is defective	Replace the Modbus cable
	The RJ12 connector is not correctly connected	Check the contact connections in both the hand-held micro terminal and the motor control system. Connect the RJ12 cable to Port "A" in the motor control system.

9. The ratio between the rpm and the ramp up time and ramp down time



10. The ratio between the rpm and the min. and max. settings

