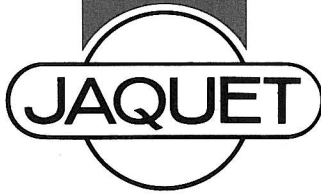


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Operating instructions No. 600 E
FT 2000 Speed monitoring system
Microterminal FTM 2000

The Microterminal is a handheld terminal for programming of the FT 2000 modules.

Technical data:

- Display:** Liquid crystal dot-matrix four lines with 16 characters
- Input:** via 25 push-buttons, 4 cursors, numbers 0...9, +, -, ., ENTER, ESC, HELP, F1...5. The values are entered following a matrix-concept (refer to drawing No. 3-110.595)
- Connection:** via spiral cord (1 m) and miniature connector on the front panel of the FT 2000 modules
- Datacommunication:** serial, EIA RS-232
- Power supply:** incorporated in the module
- Working temperature:** 0...+50°C

Parametrization

Data-entry is supported by printed forms and the Micro-terminal:

Printed-forms

Parameters (e.g. FIX-TIME or LIMIT 3 low), **displayed values** (e.g. ACTUAL VALUE) and **messages** (e.g. SW VERSION or NOT USED) are arranged within cells of a XY-matrix.

Every cell shows the following:

- the position of the matrix-cell: X = column/Y = line
 - the name of the parameter, the displayed value or the message
 - an area to the values, which a parameter may assume (e.g. numeric, normal/inverse or a selection of numeric values).
- With those printed forms customers may easily prepare and document the configuration of every plug-in unit.

The Microterminal has principally two status:

Status XY-Mode:

After power-on or connecting the terminal, the status is always XY-Mode. The matrix-cell is displayed with its X/Y-position and its actual status. By means of the cursor keys the X/Y-values may be changed, thereby displacing the display all over the matrix. In this manner every matrix-cell may be displayed. For status XY-MODE all keys are disabled with the exception of the cursors, ENTER and HELP.

The display on the microterminal looks as follows:

```
Position
of matrix-cell      X = 0   Y = 5   XY-MODE   status
Parameter name      LIMIT 5   low
actual value        1.234 E -05
```

Status MODIFY:

After selection of the appropriate parameter, by pressing the ENTER-key the microterminal is put in status MODIFY. The ENTER-key reacts only for parameters, but not for displayed values or messages, since these may not be altered with the microterminal. In the status MODIFY, a fourth line is displayed, in order to display the new value of the parameter.

```
Position
of matrix-cell      X = 0   Y = 5   XY-MODE   status
Parameter name      LIMIT 5   low
actual value        1.234 E -05
new value           8.546 E -03
```

Depending upon the typus of parameter, the value may be changed with the following keys:

- numeric parameters, all 4 cursors, 0...9, +, -, .
- menu selection cursors up/down.

In order to store the changed parameter, the ENTER-key is pressed. Consistency of the new value is automatically checked: if incorrect, a reference message is displayed. Otherwise the old parameter value is exchanged by the new one and the microterminal is reset in the original status XY-MODE.

Position of matrix-cell X = 0 Y = 5 XY-MODE status
Parameter name LIMIT 5 low
actual value 8.546 E -03

Should the old parameter be left active, the ESC (escape)-key is pressed and the microterminal automatically returns to the status XY-MODE, the eventually entered new parameter value thereby is lost and the old value is restored.

To store the entered parameters go to box X=3/Y=0 in the matrix and push the key ENT. During the data transfer, the message

"WAIT! Parameters are stored in EEPROM"
is being displayed.

Further operating modes: HELP-MODE

The following parameters and text displays are implemented (status Sept. 91):

1. Parameter names

Type of module and software-version: FTFW 2024 SW VER
FIX-TIME (10 discrete values)
MACHINE FACTOR
STORE

Limit functions:

LIMIT 1 low LIMIT 3 low LIMIT 5 low LIMIT 7 low
LIMIT 1 high LIMIT 3 high LIMIT 5 high LIMIT 7 high
LIMIT 1 mode LIMIT 3 mode LIMIT 5 mode LIMIT 7 mode
LIMIT 1 status LIMIT 3 status LIMIT 5 status LIMIT 7 status
LIMIT 2 low LIMIT 4 low LIMIT 6 low LIMIT 8 low
LIMIT 2 high LIMIT 4 high LIMIT 6 high LIMIT 8 high
LIMIT 2 mode LIMIT 4 mode LIMIT 6 mode LIMIT 8 mode
LIMIT 2 status LIMIT 4 status LIMIT 6 status LIMIT 8 status

Current output: CURRENT zero
 CURRENT full
 CURRENT output (0/4...20 mA)
 CURRENT cal.

RELAY CONTROL (logic function)
START DELAY (000,0...999,9 s)
FAILURE DELAY (000,0...999,9 s)
MIN.FREQUENCY (0,002...1 Hz)

ALARM (latched/not latched)
NOT USED

2. Non numerical parameter values

SW version	SW 0.00
Fixtime (menu)	0,01 s
	0,03 s
	0,07 s
	0,15 s
	0,30 s
	0,60 s
	1,20 s
	2,40 s
	4,80 s
9,60 s	
Relay functions:	invers
	normal
	off
	on
Current output: (ranges)	0...20 mA
	4...20 mA
Relay allocation:	limit1
	limit2
	limit3
	limit4
	limit5
	limit6
	limit7
	limit8
	alarm
MIN.FREQUENCY	0,002 Hz
	0,005 Hz
	0,01 Hz
	0,02 Hz
	0,05 Hz
	0,1 Hz
	0,2 Hz
	0,5 Hz
1 Hz	

ALARM

latched

not latched

3. Operating modes

Mode:

XYMODE

XYMODE*

MODIFY

HELP

4. Further help and error messages

ERROR! (Esc)

Value zero for Mantissa is not allowed

ERROR! (Esc)

Exponent out of allowed range -7 to +4

ERROR! (Esc)

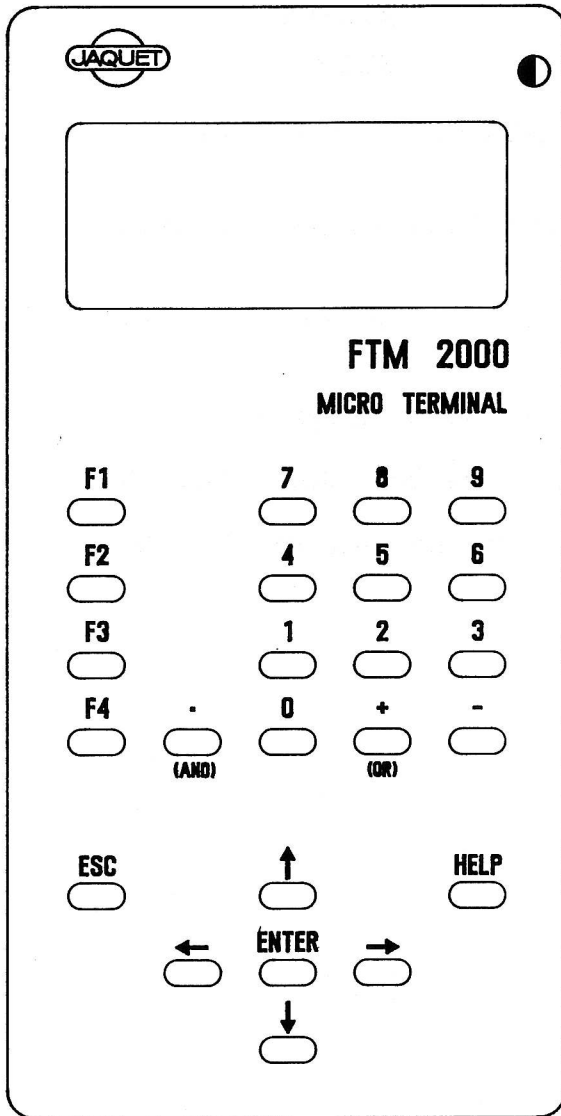
Exponent out of allowed range -12...+12

ERROR! (Esc)

LIMIT X h must be greater than LIMIT X l

WAIT! Parameters are stored in EEPROM

Jan. 1993



FT 2000
 Mikroterminal FTM 2000

M 1:1



JAQUET AG
 BASEL

Dat.: 31.7.92
 Vis.: STA

4-110.664/0



FT 2000

Mikroterminal FTM2. 0

Kunde :
Client:

B0

Frequenzrelais
Frequency relay

FTF 2024

Rack/Zeile:.....,Steckplatz:.....
Rack/row place
Datum: Visum:

Konfigurationsblatt
Configuration sheet

-kanalig
-channel

12				
11	X=0Y=11 XYMODE MIN.FREQUENCY	X=1Y=11 XYMODE ALARM	X=2Y=11 XYMODE NOT USED	X=3Y=11 XYMODE NOT USED
	.002Hz/.005Hz/.01Hz/.02Hz .05Hz/.1Hz/.2Hz/.5Hz/1Hz	Latched/Not latched		
10	X=0Y=10 XYMODE NOT USED	X=1Y=10 XYMODE NOT USED	X=2Y=10 XYMODE NOT USED	X=3Y=10 XYMODE NOT USED
09	X=0Y=09 XYMODE RELAY CONTROL	X=1Y=09 XYMODE START DELAY	X=2Y=09 XYMODE FAILURE DELAY	X=3Y=09 XYMODE * SOFTWARE VERSION 1.00
	limit1/limit2/limit3/limit4 limit5/limit6/limit7/limit8 Alarm	888.8s	888.8s	
08	X=0Y=08 XYMODE LIMIT 8 low	X=1Y=08 XYMODE LIMIT 8 high	X=2Y=08 XYMODE LIMIT 8 mode	X=3Y=08 XYMODE LIMIT 8 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
07	X=0Y=07 XYMODE LIMIT 7 low	X=1Y=07 XYMODE LIMIT 7 high	X=2Y=07 XYMODE LIMIT 7 mode	X=3Y=07 XYMODE LIMIT 7 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
06	X=0Y=06 XYMODE LIMIT 6 low	X=1Y=06 XYMODE LIMIT 6 high	X=2Y=06 XYMODE LIMIT 6 mode	X=3Y=06 XYMODE LIMIT 6 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
05	X=0Y=05 XYMODE LIMIT 5 low	X=1Y=05 XYMODE LIMIT 5 high	X=2Y=05 XYMODE LIMIT 5 mode	X=3Y=05 XYMODE LIMIT 5 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
04	X=0Y=04 XYMODE LIMIT 4 low	X=1Y=04 XYMODE LIMIT 4 high	X=2Y=04 XYMODE LIMIT 4 mode	X=3Y=04 XYMODE LIMIT 4 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
03	X=0Y=03 XYMODE LIMIT 3 low	X=1Y=03 XYMODE LIMIT 3 high	X=2Y=03 XYMODE LIMIT 3 mode	X=3Y=03 XYMODE LIMIT 3 status
	8.888E+88	8.888E+88	Normal/Invers	
02	X=0Y=02 XYMODE LIMIT 2 low	X=1Y=02 XYMODE LIMIT 2 high	X=2Y=02 XYMODE LIMIT 2 mode	X=3Y=02 XYMODE LIMIT 2 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
01	X=0Y=01 XYMODE LIMIT 1 low	X=1Y=01 XYMODE LIMIT 1 high	X=2Y=01 XYMODE LIMIT 1 mode	X=3Y=01 XYMODE LIMIT 1 status
	8.888E+88	8.888E+88	Normal/Invers	On/Off
00	X=0Y=00 XYMODE * FTF 2024	X=1Y=00 XYMODE FIX TIME	X=2Y=00 XYMODE MACHINE FACTOR	X=3Y=00 XYMODE STORE ?
		0.01/0.03/0.07/0.15/0.30 0.60/1.20/2.40/4.80/9.60	8.888E+88	
Y				
X	0	1	2	3



FT 2000

Mikroterminal FTM2000

BO

Kunde :
Client:

-kanalig
-channel

Konfigurationsblatt
Configuration sheet

Drehzahl erfassung
Speed monitor

FTFW 2022

Rack/Zeile:.....,Steckplatz:.....
Rack/row place
Datum: Visum:

12				
11	X=0Y=11 XYMODE MIN.FREQUENCY	X=1Y=11 XYMODE ALARM	X=2Y=11 XYMODE NOT USED	X=3Y=11 XYMODE NOT USED
	.002Hz/.005Hz/.01Hz/.02Hz .05Hz/.1Hz/.2Hz/.5Hz/1Hz	latched/not latched		
10	X=0Y=10 XYMODE CURRENT zero	X=1Y=10 XYMODE CURRENT full	X=2Y=10 XYMODE CURRENT output	X=3Y=10 XYMOD * CURRENT cal. - - - - FEST VERBUNDEN MIT EINSCHUB
	0.000E+00	0.000E+00	0...20mA/4...20mA	0000
09	X=0Y=09 XYMODE RELAY CONTROL	X=1Y=09 XYMODE START DELAY	X=2Y=09 XYMODE FAILURE DELAY	X=3Y=09 XYMODE * SOFTWARE VERSION 1.00
	limit1/limit2/limit3/limit4 limit5/limit6/limit7/limit8 Alarm	000.0s	000.0s	
08	X=0Y=08 XYMODE LIMIT 8 low	X=1Y=08 XYMODE LIMIT 8 high	X=2Y=08 XYMODE LIMIT 8 mode	X=3Y=08 XYMODE LIMIT 8 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
07	X=0Y=07 XYMODE LIMIT 7 low	X=1Y=07 XYMODE LIMIT 7 high	X=2Y=07 XYMODE LIMIT 7 mode	X=3Y=07 XYMODE LIMIT 7 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
06	X=0Y=06 XYMODE LIMIT 6 low	X=1Y=06 XYMODE LIMIT 6 high	X=2Y=06 XYMODE LIMIT 6 mode	X=3Y=06 XYMODE LIMIT 6 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
05	X=0Y=05 XYMODE LIMIT 5 low	X=1Y=05 XYMODE LIMIT 5 high	X=2Y=05 XYMODE LIMIT 5 mode	X=3Y=05 XYMODE LIMIT 5 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
04	X=0Y=04 XYMODE LIMIT 4 low	X=1Y=04 XYMODE LIMIT 4 high	X=2Y=04 XYMODE LIMIT 4 mode	X=3Y=04 XYMODE LIMIT 4 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
03	X=0Y=03 XYMODE LIMIT 3 low	X=1Y=03 XYMODE LIMIT 3 high	X=2Y=03 XYMODE LIMIT 3 mode	X=3Y=03 XYMODE LIMIT 3 status
	0.000E+00	0.000E+00	Normal/Invers	
02	X=0Y=02 XYMODE LIMIT 2 low	X=1Y=02 XYMODE LIMIT 2 high	X=2Y=02 XYMODE LIMIT 2 mode	X=3Y=02 XYMODE LIMIT 2 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
01	X=0Y=01 XYMODE LIMIT 1 low	X=1Y=01 XYMODE LIMIT 1 high	X=2Y=01 XYMODE LIMIT 1 mode	X=3Y=01 XYMODE LIMIT 1 status
	0.000E+00	0.000E+00	Normal/Invers	On/Off
00	X=0Y=00 XYMODE * FTFW 2022	X=1Y=00 XYMODE FIX TIME	X=2Y=00 XYMODE MACHINE FACTOR	X=3Y=00 XYMODE STORE ?
		0.01/0.03/0.07/0.15/0.30 0.60/1.20/2.40/4.80/9.60	0.000E+00	
Y X	0	1	2	3