| Instruction manual: Pressure   Pump controller : |
| Type: EM30-PUMP CONTROLLER   S-No.: |

System controller for pumps   EM30-PUMP CONTROLLER Software Version   1.00 (7.00)

Stand 11.03.2016

with frequency inverter

ALM   LOC/REM   FWD   REV   STOP

EURA Drives Germany

00,59 bar

STOP : 00Hz, 000,0A

FUN   SET

▲   ≪   ▼

RUN   STOP/RESET

Execution:	pressure controller
	level controller
	temperature controller
	vacuum controller

1. Safety Precautions

Before installing and commissioning of the frequency converter controller, please read the product manual carefully and observe all warnings and safety instructions. Keep this manual is always easily accessible in the vicinity of the frequency converter controller.

Definition of Information

Warning!	Warning ! Disregarding the safety severe to fatal injuries can occur or considerable material damage!
Caution!	Caution! Failure to follow these instructions severe to fatal injuries can occur or considerable material damage!
Notice!	Notice! Failure to follow these instructions may result in malfunction of the system!

Warning!
The drive controller contains dangerous voltages and controls potentially dangerous rotating mechanical parts. The installation, commissioning and maintenance of this equipment should be performed only by qualified personnel who are familiar with the operation. The installation, commissioning and maintenance of this equipment should be performed only by qualified personnel who are familiar with the operation.
Do you have particular caution if the automatic restart is activated. To avoid injury by possibly unintentional restart of the drive controller after a power failure, turn off the automatic restart in case of doubt. When repairing or servicing this equipment, make sure that the system can not be switched on by others again! The frequency controller have DC link capacitors, which carry hazardous voltage even after the mains supply is switched off. Therefore, always wait after switching off the mains voltage for at least 5 minutes before working on the machine or turn on the unit again. It is important to ensure that no live parts are touched when power is applied or the intermediate circuit capacitors are charged.
Do not work on the wiring and check any signals when power is applied.
The Inverter - Regulator has a leakage current.
Ground the frequency controller on the connections provided.

The customer-supplied GFCI should be in the Inverter - Regulator universal current sensitive /
selective RCD (FI) - Circuit breaker type: B, B + be with rated current 300mA.

Caution! An RCD (FI) - switch can not work sometimes in certain plants (eg long cable).

t is recommended that the frequency converter - controllers separately fused.

Make sure that the input voltage of the registered on the nameplate voltage.

Caution!
All frequency controllers are tested for dielectric strength and insulation resistance. Before the insulation measurement in the pump station, for example within the scope of the inspection frequency controller must be disconnected!

It is strongly recommended that all electrical equipment conforms to the National Electrical Codes and local regulations.

Factors such as high temperatures, high humidity as well as dust, dirt and corrosive gases. The installation should be a well-ventilated, not exposed to direct sunlight place.
Put them no mains voltage to the transducer terminals or to the control terminals. Enter the operating signals Hand/0/Auto via the selector switch on or about the driving of external contacts and not by switching on and off of a line or motor contactor.
It is strongly recommended that all electrical equipment conforms to the National Electrical Codes and local regulations. Only qualified personnel should perform installation, alignment and maintenance. The manufacturer reserves the right to alter the technical data in order to make improvements or update information.
As these provisions are handled differently, the user must observe the respectively valid for Him requirements. The manufacturer can not release you from the obligation to comply with the latest safety standards the user..

Notice!
The technical data and descriptions in this guide are correct to the best knowledge and belief. Technical improvements have been continuously carried out - that's why the manufacturer reserves the right, without prior notice to carry out such changes.
The manufacturer can not be held liable for errors in the manual.
Warranty is within Germany and within the

incorporated statutory warranty period and applies only to the product itself and not for any consequential loss or damage or costs associated with the occurrence of a Warranty claim arise at other plants or plant parts. The operator
shall, in each case to ensure that a failure or defect in the product can not lead to further damage.

2. General / Mode of Operation

2.1 EM30-PUMP CONTROLLER Pressure Control System

This product complies with the latest technology and is continuously developed and improved. The device was subjected to the production of a comprehensive examination and therefore working properly. To ensure optimum performance, read and follow these instructions. This Inverter controller operates as a speed controller automatically, depending on demand. The speed of the pump (s) will be adjusted continuously. The actual value in the system is detected by the sensor. A PI controller regulates according to the setpoint.
The speed controller is configurable and can be adapted to the particular operating conditions. The parameters are displayed in plain text. Commissioning is menu-driven. Some data must be entered in order to ensure smooth operation of the speed control. Commissioning should be carried out by a competent person or the manufacturer.

2.2 Benefits of speed control:

- almost constant pressure
- Continuous adjustment of pump power to the changing operating conditions
- Energy saving
- no large pressure vessel longer required
- low mechanical wear of pumps and maintenance free

2.3 Principles of speed control

This speed control can operate accurately and effectively, the following points should be noted:

- the pump (s) must be construed in accordance with the system / requirement
- the pump (s) must have 10..20% power reserves have (control reserve)
- submersible pumps, the minimum rate should be above 30Hz. (Hydrodynamic bearing)
- Always check the motor rotation direction

2.4 Construction of a pressure control system

Non-return valve preventer is imperative and must be in the pressure behind the
Pump will be installed! The expansion tank is to be fitted if required.

1 Flow direction	5 Non-return valve
2 Controller	6 Pressure Transducer(0-10V/10V)
3 Motor	7 Pressure vessel
4 Pump	

Examples:
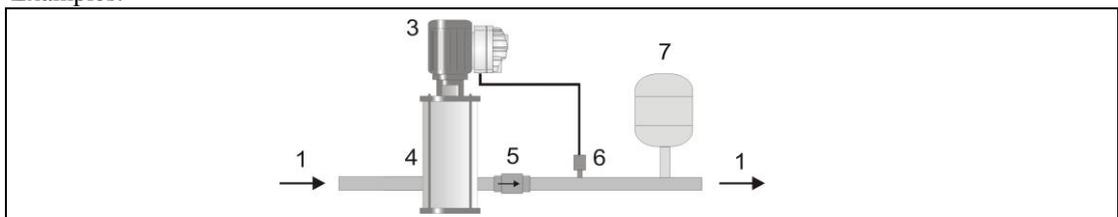
2.5 Note for the operation of the system with Pressure vessel!

If the plant is operated with a pressure vessel, the vessel must be pre-pressed in normally state.
The pre-squeezing pressure should be checked regularly. The amount of pre-squeezing pressure is: Start pressure bar minus 0.50.

3. Installation and Mounting

⚠️ **Caution!** Environmental conditions such as high temperatures, high humidity should be avoided as well as dust, dirt and corrosive gases. The installation should be a well-ventilated and not exposed to direct sunlight location.

⚠️ **Warning!** Because of convection, the frequency control during installation of at least

Be installed 15 cm from side walls or other facilities.

The allowable temperature range of +5 ° C to +30 ° C must not be under-or exceeded
Do not install the Inverter controller near heat-radiating bodies

3.1 Mounting the Controller
The compact housing is constructed with an adapter in place of the terminal box using 4 holes.
Mounting details: See manufacturer's data sheet EM30.

4. Wiring and Connections in Controller mode

Warning! Make sure that the input voltage indicated on the product nameplate voltage.

Caution! Be sure to supply voltage and terminal assignment note!
Do not apply a voltage to the sensor - and control terminals.
The pressure sensor used 0-10V or 4-20mA,
are connected to the respective terminals!

Notice! The respective pin assignment, refer to the diagram.
Check the correct connection of power, sensor, and control lines.

4.1 Motor protection
The EM30-PUMP CONTROLLER Inverter controller has a monitoring function for the motor current.
This motor current is set via the controller menu. In addition, PTC thermistors are to monitor
the temperature used. This monitoring is set via the controller menu..

4.2 Terminals
In the lower part of the switch box EM30- ... is the terminal strip.

4.3 Power supply: 230V or 400V 50 / 60Hz

Clamp	Function	Description
L1	Power Supply	L1 Phase
L2 (N)	look	L2 Phase (Neutral)
L3	Type plate	L3 Phase
PE		PE Ground

Power Supply
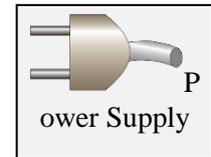
4.4 Port for the fault signal relay per inverter

Clamp	Function	Description
1 TC 1/2	Alarm relay	Alarm contact
2 TB 1/2	changer	Alarm contact
3 TA 1/2	230V 2 A limit	Alarm contact

Power On, no failure   Power Off or failure
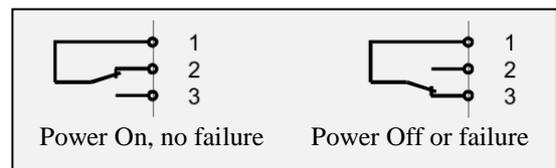
4.5 Port for the external inputs

Clamp	Function	Description	
CM	Common	Ext. Common	
DI1(9)	Ext. On / Off	Ext. Input 1	
DI2 (30)	Ext. low water on	Ext. Input 2	
DI3 (31)	Ext. low water off	Ext. Input 3	
DI4 (15)	Ext. Enable Multi	Ext. Input 4	
DI6 (Multi)	Ext. Bridge Multi	Ext. Input 6	
CM	PTC	+	Motor
DI5 (38) (n.c.)	PTC	-	Motor

External Input PTC
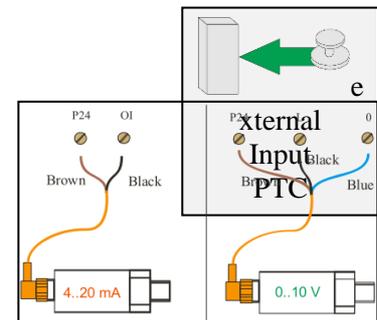
The digital input and outputs are programmable. Function see menu "inverter".

4.6 Port for the transducer 4-20mA   <mark>Attention ! available from version 7.50!</mark>

Clamp	Function	Description
P24	24VDC +	Transducer +
CM+GND	24VDC -	Bridge / Transducer -
AI1	Signal 0-10V	Sensor Signal V
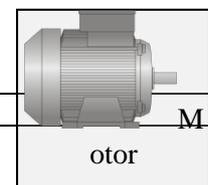
4.7 Port for the transducer 0-10V

Clamp	Function	Description
P24	24VDC +	Transducer +

Motor

CM+GND	24VDC -	Bridge
AI1	Signal 4-20mA	Transducer Signal mA

The terminal CM and the terminal GND must always be connected; otherwise no function!

4.8 Connection for the motor / pump 3x230V or 3x400V 50 / 60Hz

Clamp	Function	Description
U	3 phase motor	U
V	look	V
W	wiring diagram	W

When disturbances to the notes under 9.2 Troubleshooting note!

5. Panel Description EM30-PUMP CONTROLLER

Control panel with LCD display for parameters and operating data:

- stop engine / reset failure

RUN - start the motor

« - Changing mode,

change parameter location

▲ ▼ - Browse parameters
change values

SET - store values

FUN - base Settings

5.1 EM30-PUMP CONTROLLER display:

Active main display

After initialisation is complete, the display will return:

Status indicators during controller mode

Display manual mode (HAND)

Eura Drives Germany	Eura Drives Germany
35,0 Hz	00,0 Hz
HAND : 35Hz, 005,9A	STOP : 00Hz, 000,0A

Display in automatic mode (AUTO)

Eura Drives Germany	Eura Drives Germany	Eura Drives Germany
01,50 bar	**00,59 bar**	**00,59 bar**
AUTO : 42Hz, 007,9A	STOP : 00Hz, 000,0A	STANDBY STOP : 00Hz, 000,0A
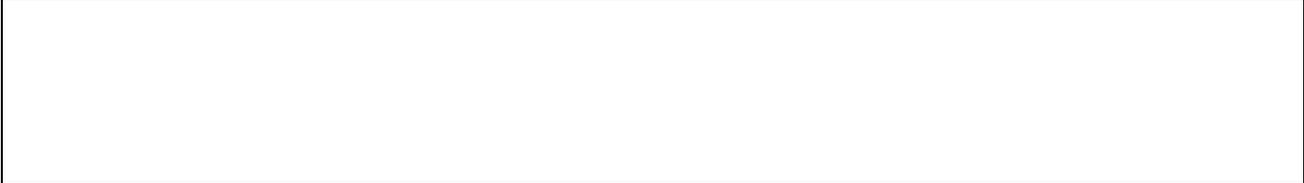
5.2 EM30-PUMP CONTROLLER Hand / Auto Change:

operate system with manual or automatic mode.

Select 5.2.1 Manual operation

RUN Auto mode "Run"   STOP RESET Auto mode „Stopp"

Eura Drives Germany	Eura Drives Germany
01,50 bar	**00,59 bar**
AUTO : 42Hz, 007,9A	STOP : 00Hz, 000,0A

≪ Switching between auto and manual mode

Eura Drives Germany	Eura Drives Germany
00,59 bar	**00,0 Hz**
STOP : 00Hz, 000,0A	STOP : 00Hz, 000,0A

5.2.2 Select Automatic mode

STOP RESET Hand mode „Stop"   RUN Hand mode „Run"

Eura Drives Germany	Eura Drives Germany
00,0 Hz	**35,0 Hz**
STOP : 00Hz, 000,0A	HAND : 35Hz, 005,9A
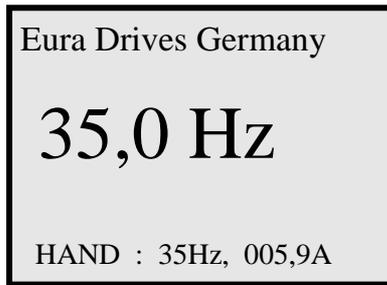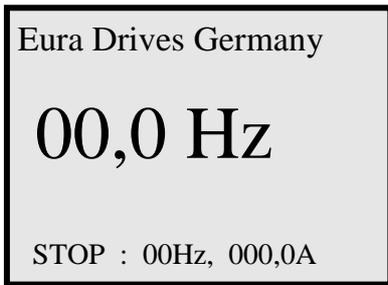
« Switching between manual and automatic operation

Eura Drives Germany	Eura Drives Germany
00,0 Hz	**00,59 bar**
STOP : 00Hz, 000,0A	STOP : 00Hz, 000,0A
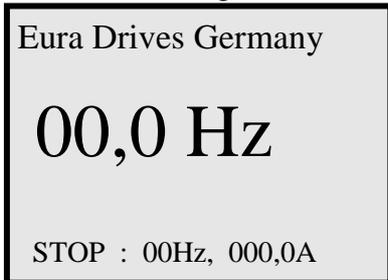
6. Basis Menu

6.1 Setting the language   <mark>Attention ! Only in stop possible!</mark>

[STOP RESET] Press "Stop" button.   [FUN] "FUN" button for 10 seconds. hold

The basic menu is displayed.

basic settings

[▲] [▼]   SET   [▲] [▼]   SET

```
------Basic--settings------    ------Basic--settings------    ------Basic--settings------    ------Basic--settings------
Language          : 0          Language          : 0          Language          : 1          Language          : 1
Operating mode    : 0          Operating mode    : 0          Operating mode    : 0          Operating mode    : 0
```
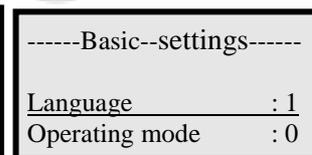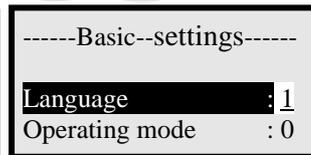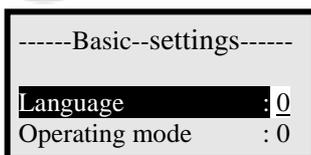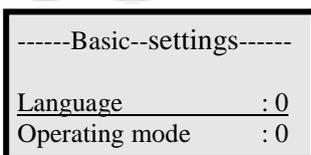
[FUN] "FUN" button for 2 sec. And hold to exit the base.

6.2 Setting mode "controller"   <mark>Attention ! Only in stop possible!</mark>

[STOP RESET] Press "Stop" button.   [FUN] "FUN" button for 10 seconds. hold

The basic menu is displayed.

basic settings

▲ ▼		SET		▲ ▼		SET

------Basic--settings------	------Basic--settings------	------Basic--settings------	------Basic--settings------
Language : 0	Language : 0	Language : 0	Language : 0
Operating mode : 2	Operating mode : 2	Operating mode : 1	Operating mode : 1

FUN "FUN" button for 2 sec. And hold to exit the base.

Controller Menu (1)	Multi Operation menu (2)	frequency menu (3)
------Controller--Parameter------ - - - - - - -	-----Multi-mode--Parameter----- - - - - - - - -	---------Inverter--Parameter------- - - - - - - - -
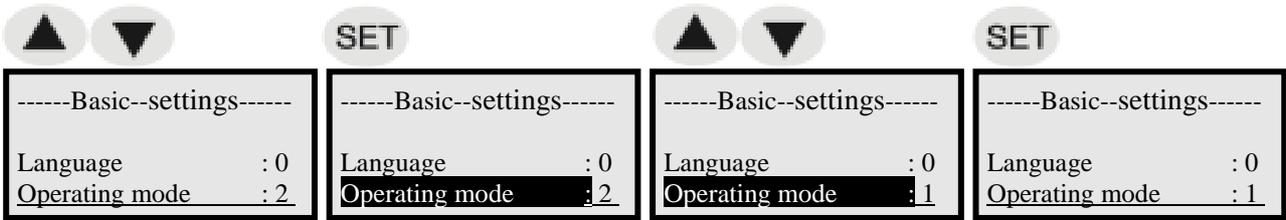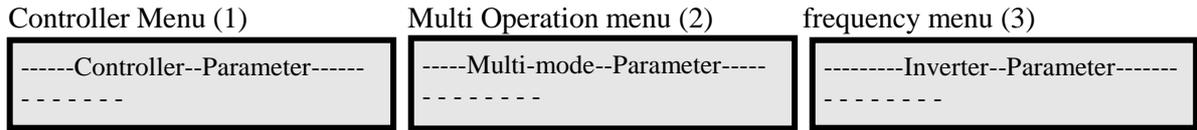
7. Pump controller Menu

Status fault memory

Eura Drives Germany ER11 , 55Hz, 10,5A, 700V ER04 , 45Hz, 09,5A, 600V ER05 , 22Hz, 07,5A, 550V	▲ ▼

Status Main

Eura Drives Germany 01,50 bar AUTO : 42Hz, 007,9A	▲ ▼

Parameter menu

```
------Controller--Parameter-----

testing phase          : 50
sensor mA/V            : 1
maximum value          : 9,50
target pressure        : 4,00
start pressure         : 3,50
controller - art       : 1
standby- art           : 0
SW-off frequency       : 35,0
overrun time           : 05,0
starting delay         : 03,0
A value tolerance      : 01,0
low water function     : 0
delay time             : 60
Autostart              : 0
hand frequency         : 30,0
rotating               : 0
accelerate             : 02,0
decelerate             : 03,0
```

ALM LOC/REM FWD REV STOP

EURA Drives Germany

01,50 bar

AUTO : 42Hz, 007,9A

FUN   SET
▲   ≪   ▼
RUN   STOP/RESET

Setting parameters using the example of maximum value

▲ ▼   SET   ▲ ▼   ≪ (if necessary)

```
--Controller--Parameter---

Sensor mA/V      : 1
maximum value   : 9,50
```

```
--Controller--Parameter---

Sensor mA/V      : 1
maximum value   : 9,50
```

```
--Controller--Parameter---

Sensor mA/V      : 1
maximum value   : 9,55
```

```
--Controller--Parameter---

Sensor mA/V      : 1
maximum value   : 9,55
```

▲ ▼   SET

```
--Controller--Parameter---

Sensor mA/V      : 1
maximum value   : 9,65
```

```
--Controller--Parameter---

maximum value   : 9,65
target pressure : 4,00
```

7.1 Setting parameters

Enter the Testing phase for the null sets a shutdown. Recommendation: 20%. See also "zero flow cutoff"
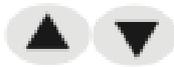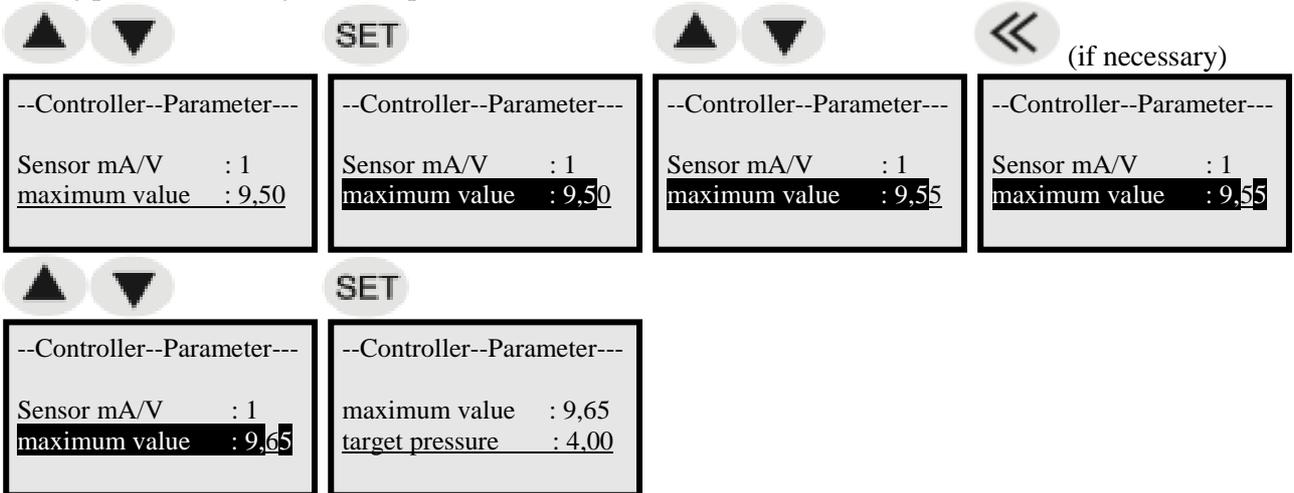testing phase   :20%   - 1% - 99% = 0,1- 0,99bar absolute

Select the signal input for the transducer. Data: See type plate sensor. This feature lets you choose
the option signal between 0-10V and 4-20mA. (See special connection diagram)
sensor input   :mA   - mA / V

Enter the top pressure value at which the system will be governed immediately.
maximum value   :09,50bar   - 0,01bar - 99,99bar (1-4)

Enter the target pressure value at which the system is to operate.
target pressure   :04,00bar   - 0,01bar - 99,99bar (1-4)

Enter the start difference value at which the system will start again after the "Standby"
start pressure   :03,50bar   - 0,01bar - 99,99bar (1-4)

Enter the function of the PID control. (For example, filling or emptying)
controller - art   :1   - 1 = positive, 0 = negative

Enter the function for standby. (Stop or basic speed)
Standby- art   :0   - 0 = stopped, 1 = Base speed with stop

Enter the cutoff frequency for the zero quantities shutdown.
switch-off frequency   :35Hz   - 1Hz - 200Hz

Enter the time delay for the zero quantities shutdown.
switch-off delay   :5s   - 1s - 99s

Enter the time delay for the zero quantities shutdown.
starting delay   :8s   - 1s - 99s

Enter the setpoint tolerance for zero amounts shutdown
Actual value tolerance   :01%   - 0% - 10%

Enter the water deficiency function. 0 = no protection; 1 = protection from digital input 1 + 2; 2 = Protection
on maximum frequency and minimum power (engine idling); 3 = protection on minimum power (engine idling).
low water   :0   - 0=off / 1= digital input / 2= controller / 3= motor current
delay time   :60s   - 1s - 999s delay time for low water

0 =   low water is off
1 =   low water from digital input
2 =   low water from controller
3 =   low water from motor current

Specify the function for the Autostart to "power on".
Autostart   :0   - 1 = on, 0 = off

Enter the hand frequency in Hz, a hand, in which the respective engine in manual mode is to move up and down..
hand frequency   :35Hz   - 1Hz - 200Hz

Enter the maximum frequency of the pump. This feature gives you the option to enter the maximum frequency of the pump for
operation.
This way of setting the pump power can be limited.
max frequency   :50Hz   - 1Hz - 200Hz

Enter the rotation direction of the pump (s). AC phase angle does not matter!
rotating direction   :R / L   - Right / Left

Enter the Acceleration time of the pump (s). Recommendation: 1-3 seconds.
acceleration time   :03,0s   - 0,01s - 99,9s / only manual operation

Enter the deceleration time of the pump (s). Recommendation: 2-10 seconds.
deceleration time   :05,0s   - 0,01s - 99,9s / only manual operation

8. Error Messages

9.2 Error messages Frequency EM30-PUMP CONTROLLER

The error "Er01" to "Er xx" are error messages. The red LED lights. The alarm relay switches.Display examples:

Error messages can by pressing "Stop" button reset.

Eura Drives Germany	Eura Drives Germany	Eura Drives Germany
00,59 bar	**00,59 bar**	**00,59 bar**
ER 04	ER 11	ER 15
STOP : 00Hz, 000,0A	STOP : 00Hz, 000,0A	STOP : 00Hz, 000,0A

Inverter EURA-FU

error Er04   : Motor overload (O.C.)
        Motor protection tripping. Reduce pump performance. Set motor protection!

error Er05   : Over-voltage in the DC link with frequency (O.E.)
        Generator operation, power surge, check check valves. Call service!
error Er06   : Phase error power input (P.F1)
        Phase failure. Check the fuses. Check mains voltage.
error Er07   : Overload inverters (O.L1)
        Check inverter power; reduce pump performance. Set the parameters!
error Er08   : under-voltage (L.U.)
        Grid voltage fault. Check fuses, check mains voltage.
error Er09   : Inverter over temperature (O.H.)
        Inverter is too hot. Reduce carrier frequency. Cooling defective??
error Er10   : Overload inverters (O.L2)
        Check inverter power; reduce pump performance. Set the parameters!
error Er11   : Under load frequency (Err) ?
        Motor load too low during operation. Increase engine power! Pumps deliver too little?
error Er13   : External fault ESP
        Enter Wrong password on the frequency
error Er14   : incorrect password frequency (ERR1)
        Frequency defective. FU exchange. Call service!
error Er15   : Errors motor parameters ERR2
        Inverter set at the factory setting! Call service!
error Er16   : Over current at standstill ERR3
        Motor load at a standstill too high. Pump is blocked! Call service!
error Er17   : Fault current measurement ERR4
        Frequency defective. FU exchange. Call service!
error Er18   : Motor overload (OC1)
        Motor protection tripping. Reduce pump performance. Set motor protection!
error Er19   : Phase error motor (PF0)
        Motor phase interrupted. Check motor cable, check motor
error Er20   : Broken wire analog signal (AErr)
        Inverter set at the factory setting! Call service!
error Er21   : Under load frequency (EP3)
        Motor load too low during operation. Increase engine power! Pumps deliver too little?
error Er22   : Under load frequency (EP)
        Motor load too low during operation. Increase engine power! Pumps deliver too little?
error Er23   : Under load frequency (EP2)
        Motor load too low during operation. Increase engine power! Pumps deliver too little?
error Er24   : Sleep mode nP
        Inverter set at the factory setting! Call service!
error Er25   : Inverter parameter incorrect (ERR5)
        Inverter set at the factory setting! Call service!
error Er37   : Error PTC tripping (O.H1)
        The PTC thermistor has tripped. Reduce engine power. Improve cooling.
error Er47   : Communication error with the frequency inverter (CE)
        ModBus address wrong; ModBus connection faulty. Check connection or address?
error Er48   : Communication error with the drive to the control panel (IP66 / EM30)
        F930 is not set correctly. Setting the FU check Check keypad!

8.3 Troubleshooting

The displays is dark
Mains voltage is present and turned on? If one or more fuses blown?

Plant does not start
The controller is not in operation!Press the "RUN" or switch between "manual" or "automatic"!
If properly closed when operating via the external input cable?

Plant does not start although the "RUN" shows.
Transducer not connected? (Message: "Sensor error")
The actual pressure is reached or over inflation pressure? The starting pressure is not set or too small?

Pump does not stop
If the set pressure is set too high (pumps create the pressure does not)? Is the pipeline of investment not vented
properly? Non-return valve incorporated in the pressure line upstream of the sensor?
Zero flow cutoff is not set correctly? See: switch-off frequency, testing phase, switch-off delay!
If the back-flow preventer leaking? In short rigid pipes, expansion vessel into the pressure line downstream of the
back-flow preventer installed (pre-charge pressure check: starting pressure - 0.5 bar)!

Pressure indicator does not indicate the actual pressure
Pressure sensor type does not match the pressure sensor used (eg 10 bar - Sensor; 25 bar - sensor)?
Sensor or sensor plug is wet? Sensor cable is broken or connected incorrectly?

The control is too warm
Check ambient temperature! If necessary. provide cooling! Reduce carrier frequency!

Display shows no data and pump does not start
Connected pumps have the "power" switch on already ground fault.
Check frequency without pumps connected to function

9. Expert mode

9.1 switch-off frequency,
The switch-off frequency is the lowest operating frequency in the pressure control. If the switch-off frequency achieved waiting the pressure regulator the switch-off before the particular pump into "standby" position.
The switch-off frequency should be adjusted so that just no longer promotes the respective pump.
The delay time should be set so that does not get the pump in this operating point to vibrate.

This feature supports the zero flow cutoff.

9.2 zero flow shut-off
The zero flow shut-off ensures safe shutdown output "0".
The zero flow cutoff requires when setting some experience and detailed knowledge of the operation of the controller.
If the system with the factory setting of zero flow cutoff does not operate satisfactorily,
please contact your dealer or the manufacturer.
The test phase: 1 - 99%   50%   Recommendation: 50%.
manipulates the desired pressure while the pump is operating to constantly check whether it delivers.
The larger the test phase, the safer switches on the pump when pumping "0".

[i]   To adjust the system with test phase and cutoff expertise is required!
Notice!

END Controller Menu
6.3 Setting the operating mode "Multi"   Attention ! Only in stop possible!

STOP RESET Press "Stop" button.   **FUN** "FUN" button for 10 seconds. hold

The basic menu is displayed.
basic settings

▲ ▼   SET   ▲ ▼   SET

------Basic--settings------
Language   : 0
Operating mode   : 1

------Basic--settings------
Language   : 0
Operating mode   : 1

------Basic--settings------
Language   : 0
Operating mode   : 2

------Basic--settings------
Language   : 0
Operating mode   : 2

FUN "FUN" button for 2 sec. And hold to exit the base.

Controller Menu (1)	Multi Operation menu (2)	frequency menu (3)
------Controller--Parameter------ - - - - - - -	-----Multi-mode--Parameter----- - - - - - - - -	--------Inverter--Parameter------- - - - - - - -

10. Multi Mode menu

Status fault memory

Eura Drives Germany   ER11 , 55Hz, 10,5A, 700V   ER04 , 45Hz, 09,5A, 600V   ER05 , 22Hz, 07,5A, 550V

▲ ▼

Status displays in multi mode operation
Example double system with MARH

Eura Drives Germany # Station 1 AUTO P1: 42Hz, 007,9A	Eura Drives Germany # Station 2 STOP P2: 00Hz, 000,0A

▲ ▼

Parameter menu

-----Multi-mode--Parameter-   Slave   : 1

▲ ▼

10.1 Adjustment of the slave address for the multi-mode.

▲ ▼   SET   ▲ ▼   SET

-Multi-mode--Parameter- Slave : 1	-Multi-mode--Parameter- Slave :1	-Multi-mode--Parameter- Slave : 2	-Multi-mode--Parameter- Slave : 2

10.2 Setting multi mode parameters

Enter the slave address for the multi-operation. Attention! Only use each address once
Slave Address   :1   - 1 - 6 (MARH Address: 101- 106)

10.3 Construction scheme of a multi-pump system with 4x EM30 + Multi Controller

Slave Adress   :1   (Multi Adress: 101- 106)
Slave Adress   :2   (Multi Adress: 101- 106)
Slave Adress   :3   (Multi Adress: 101- 106)
Slave Adress   :4   (Multi Adress: 101- 106)

6.4 Setting the operating mode "frequency"   <mark>Attention ! Only in stop possible!</mark>
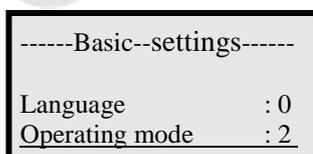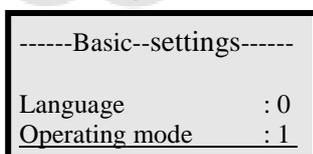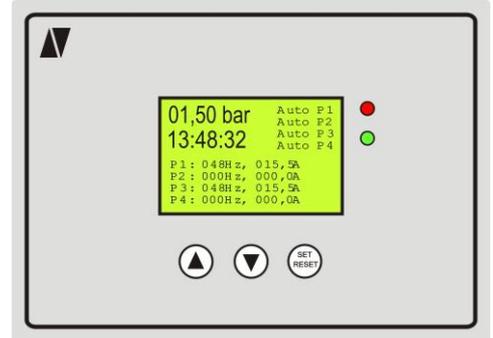
 Press "Stop" button.   "FUN" button for 10 seconds. hold

The basic menu is displayed.

basic settings

▲ ▼	SET	▲ ▼	SET

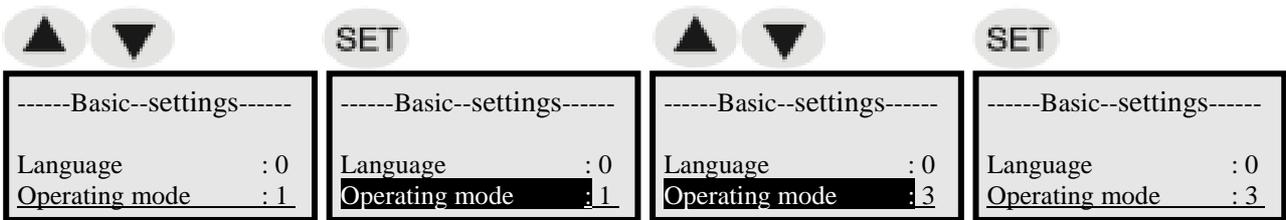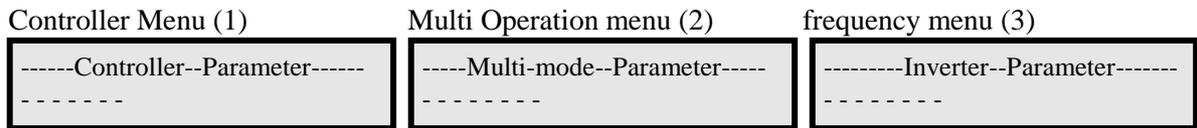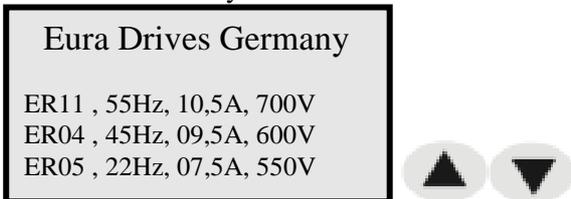| ------Basic--settings------	------Basic--settings------	------Basic--settings------	------Basic--settings------
Language : 0	Language : 0	Language : 0	Language : 0
Operating mode : 1	Operating mode : 1	Operating mode : 3	Operating mode : 3

FUN "FUN" button for 2 sec. And hold to exit the base.

Controller Menu (1)   Multi Operation menu (2)   frequency menu (3)

------Controller--Parameter------	-----Multi-mode--Parameter-----	--------Inverter--Parameter-------
- - - - - - -	- - - - - - - -	- - - - - - - -

11. frequency operation menu

Status fault memory

Eura Drives Germany
ER11 , 55Hz, 10,5A, 700V
ER04 , 45Hz, 09,5A, 600V
ER05 , 22Hz, 07,5A, 550V

▲ ▼

Status displays in FU operation
Example Stop mode or Run mode

---Eura Drives------------------	---Eura Drives------------------
00,0 Hz	35,0 Hz
000,0 A	007,2 A
STOP	RUN

FUN ▼

Parameter menu

--------Inverter--Parameter-------
F114   : 10,0

▲ ▼
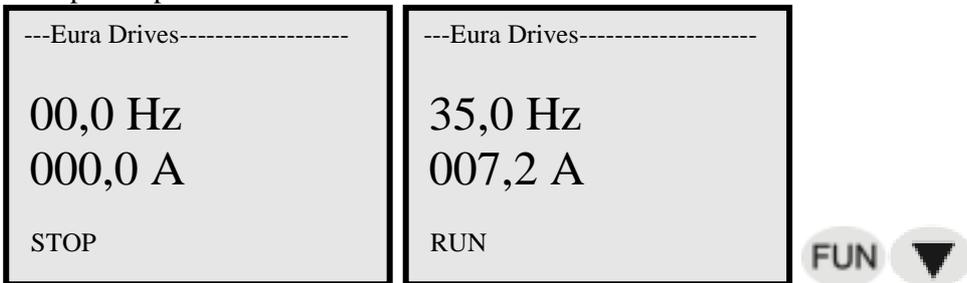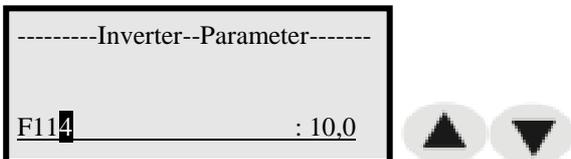
11.1 Setting parameters in operating frequency   <mark>Attention ! Only in stop possible!</mark>

▲ ▼	SET	« (if necessary)	▲ ▼

---Eura Drives-------------	---Eura Drives-------------	---Eura Drives-------------	---Eura Drives-------------
F114 : 10,0	F114 : 10,0	F114 : 10,0	F114 : 12,0

SET   ▲ ▼   ≪ (if necessary)   ▲ ▼

```
---Eura Drives------------        ---Eura Drives------------        ---Eura Drives------------        ---Eura Drives------------
F114              : 12,0          F115              : 10,0          F115              : 10,0          F125              : 30,0
```

≪ (if necessary)   ▲ ▼   ≪ (if necessary)   ▲ ▼

```
---Eura Drives------------        ---Eura Drives------------        ---Eura Drives------------        ---Eura Drives------------
F125              : 30,0          F200              : 4             F200              : 4             F201              : 4
```

SET   ▲ ▼   ≪ (if necessary)   ▲ ▼

```
---Eura Drives------------        ---Eura Drives------------        ---Eura Drives------------        ---Eura Drives------------
F201              : 4            F201              : 3            F201              : 3            F202              : 4
```

11.2 Setting the frequency parameter

Enter the value of parameter F 114. F114 = ramp (Example)
F114   :10.0   - 0.01- 99.0

All other parameters, refer to the original operating instructions from the inverter!

12. Status of the LED indicators on the EM30-PUMP CONTROLLER Display (controller operation)

ALM	=	Alarm (fault)		permanent light
ALM	=	Alarm (Guardian)		flash light
LOC	=	Control mode (local)		permanent light
REM	=	Multi mode (remote)		flash light
FWD	=	Clockwise (forward)		permanent light
REV	=	Anticlockwise (reverse)		permanent light
FWD	=	forward (Standby)		flash light
REV	=	reverse (Standby)	flash light	
STOP	=	Stop		permanent light
STOP	=	Standby	flash light	

ENDE Menu

13. customer settings EM30-PUMP CONTROLLER :

Date: _____

_____