

## INVERTER SETTINGS FS 230

How to change the maximum inverter speed

When we test the FS 230 Machine, we run on the maximum frequency of 55Hz,

- if you need to decrease this value -- > just go to F21 parameters and put the new value for exemple 48Hz,
- if you need to increase this value -- >
  - 1) put F21 = new value for exemple 60Hz,
  - 2) put F24 = 1
  - 3) put F25 = new value,
  - 4) put I10 = new value,

### **Please notice!:**

FS 230 machine has just one inverter for the control of both motors,  
When you increase / decrease the maximum speed this will be for the 2 motors. (Carriage and turntable)

Disadvantages of higher speed:

- 1) less boost,
- 2) motor will be heater,
- 3) attention of correct stop with up and down limit switch

**WE RECOMMEND NOT TO EXCEED 60 HZ !!!**

## SOFTWARE RELEASE FS 230 Version 01

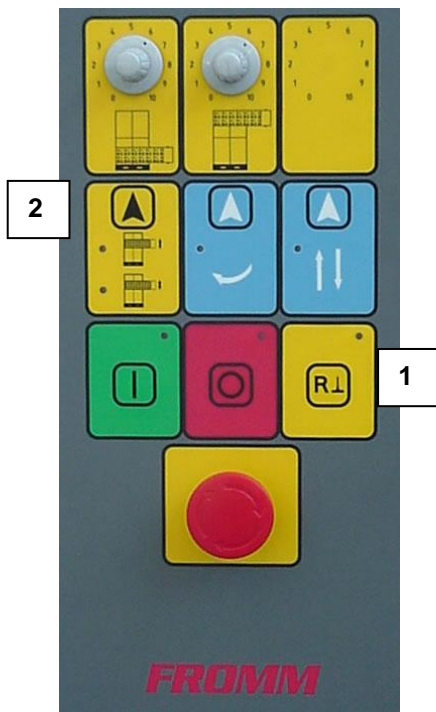
### Software Release 301501.03 Version 01.hex for FS 230 machine:

Installed standard from serial nr: 0300001 (Production nr 06E080300320)

Also pre installed in serial numbers below:

02000035	HOLLAND
02000041	HOLLAND
02000042	HOLLAND
02000043	HOLLAND
02000048	NORWAY

- 1) Faster beeper,
- 2) Manual cycle:
  - ✓ Select the manual cycle pressing RESET (1) + CYCLE (2);



Old Settings

Put the correct parameters:

- a) H93 = 1,
- b) Acc = 2.00,
- c) Dec = 8.5,
- d) Fr9 = 3,
- e) F4 = 2,
- f) F21 = 55,
- g) F22 = 50.

After serial number:

**06E060300283**

**We changed to these settings**

Put the micro switch to PNP,

Put the correct parameters:

- h) H93 = 1
- i) Acc = 4.00**
- j) Dec = 2.00**
- k) Fr9 = 3
- l) F4 = 2
- m) F21 = 50**
- n) F22 = 50

- ✓ Leds 1 and 2 will light on -- > manual cycle is active;
- ✓ Press Start and the plate starts;
- ✓ Press carriage up / down (3) move the carriage;
- ✓ The cycle finishes or for STOP or for ALARM or for LOW limit switch.

### Software Release 301501 Version 02 Expo.hex for FS 230 machine:

We have made a special program for exhibitions. The machine will run all day without starting every time. This program is called **301501 Version 02 Expo.hex**

- ✓ Select cycle "UP DOWN"
- ✓ Press START
- ✓ The plate makes low turns, the carriage goes up, the plate makes up turns, the carriage goes down ... then the plate stops and starts automatically and repeat the cycle forever
- ✓ The cycle ends only for STOP or for ALARM.

**RELEASE 30.1501.03 Version 02 for FS230 machine**

**This program is for:**

**FS 230 Standard,  
FS 230 Horse shoe turntable  
FS 230 With presser plate**

**With this program we put the inverter parameters as follows:**

- H93 = 1 = Reset parameters to OEM settings standard LG
- Acc = 4.00
- Dec = 2.00
- FRq(9) = 3
- F4 = 2
- F21 = 50 If you change this parameter, F25 and I10 changes to the same value. Because FS25 and I10 cannot be set higher than F21
- F22 = 50
- F23 = 1
- F24 = 1
- F25 = 50 or value in F21
- F26 = 10
- F27 = 0
- F28 = 15
- F29 = 15
- I10 = 50

OEM = Original Entry Manufacturer

Oss. F27 = 0, F28 = 15, F29 = 15 assure max power to the motor - inverter

Please read the LG Manual, which is supplied together with the machine or check our Website at [www.fromm-stretch.com](http://www.fromm-stretch.com)

**DIFFERENCES WITH 30.1501.03 Version 01:**

You can decide, if you need, to change minimum frequency (at the end of the cycle) only by changing F26

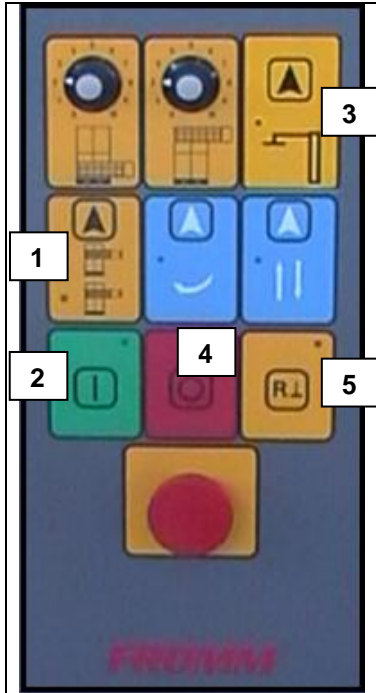
for example F26 = 10 --> min frequency 10Hz,  
F26 = 9 --> min frequency 9Hz,

**SETTINGS: OPERATING PANNEL FS2.1148 / FS2.1130 BOARD**

**Standard settings for release Version 02**

NO HORSESHOE TURNTABLE,  
NO PRESSER PLATE INSTALLED

Standard machine - Horse shoe machine - Machine with presser plate



If you want to change the standard settings on HORSESHOE

To set HORSESHOE  
Press the button (1) and after 1 second press also the button (2) keep these 2 buttons pressed till the machine begin to makes 5 beeps.  
TURN OFF the machine -- > TURN ON the machine

To set PRESSER PLATE  
Press the button (1) and after 1 second press also the button (3) keep these 2 buttons pressed till the machine begin to makes 7 beeps.  
TURN OFF the machine -- > TURN ON the machine

To reset HORSESHOE and PRESSER PLATE  
Press the button (1) and after 1 second press also the button (4) keep these 2 buttons pressed till the machine begin to makes a long beep.  
TURN OFF the machine -- > TURN ON the machine

## HOW TO CHANGE THE PROGRAMM OF THE FS 230

1. Turn of the machine
2. Unscrew the wire showed in figures 1 and 2

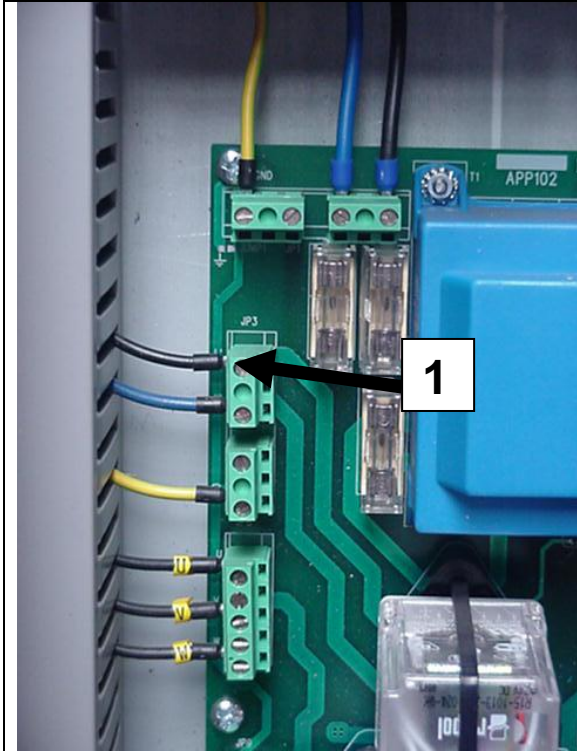


Figure 1

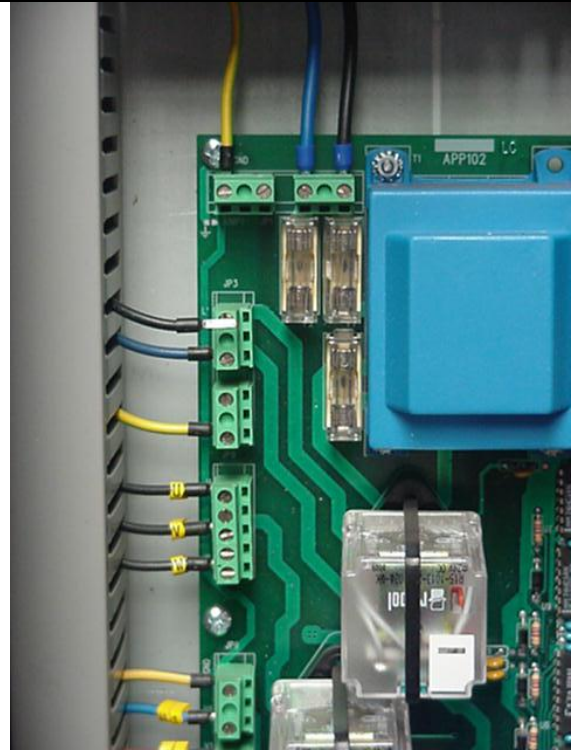


Figure 2

3. Insert the cable AVR ISP ( FROMM 16.8234 ATMEL AVR ISN In System programmer) to one serial port RS232 (COM) of your PC
4. Inset the cabel AVR ISP to the little box on the panel. (The flat cable should be connected also!)

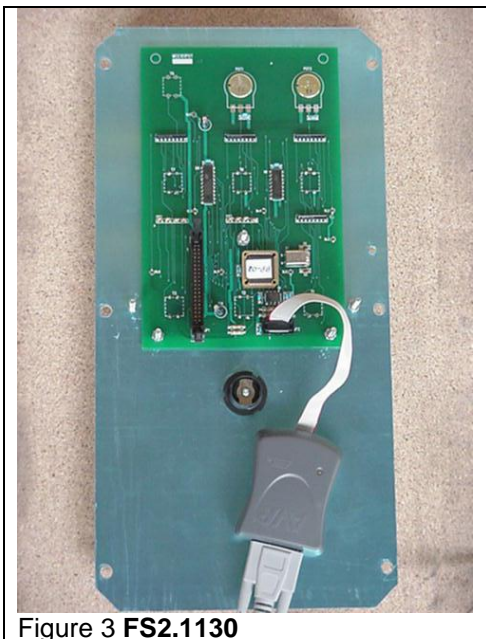


Figure 3 FS2.1130

FROMM 16.8234 ATMEL AVR ISN In System programmer

5. Turn on the machine again
6. Execute the program *AVR Studio 4.0*
7. Click on TOOLS and then on STK500 / AVRISP / JTAG ICE
8. Select the microcontroller AT90S8535 (**check the correct microcontroller on board FS2.1130**) (Ref 1 Figure 4)

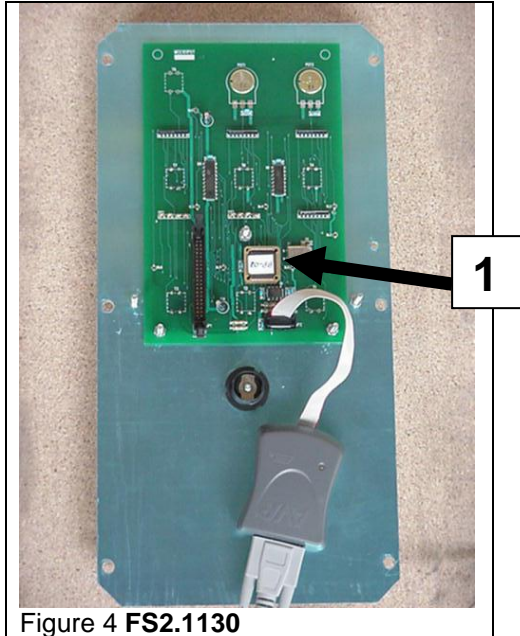


Figure 4 **FS2.1130**

9. Select the two boxes *Erase Device Before Programming* and *Verify Device after Programming*.
10. Select the FILE to transfer (301501.03 RP-27.hex) (Ref 10 Figure 5)
11. Press the button Programm, and wait.....until.....  
Leaving programming mode OK (Ref 11 Figure 5)

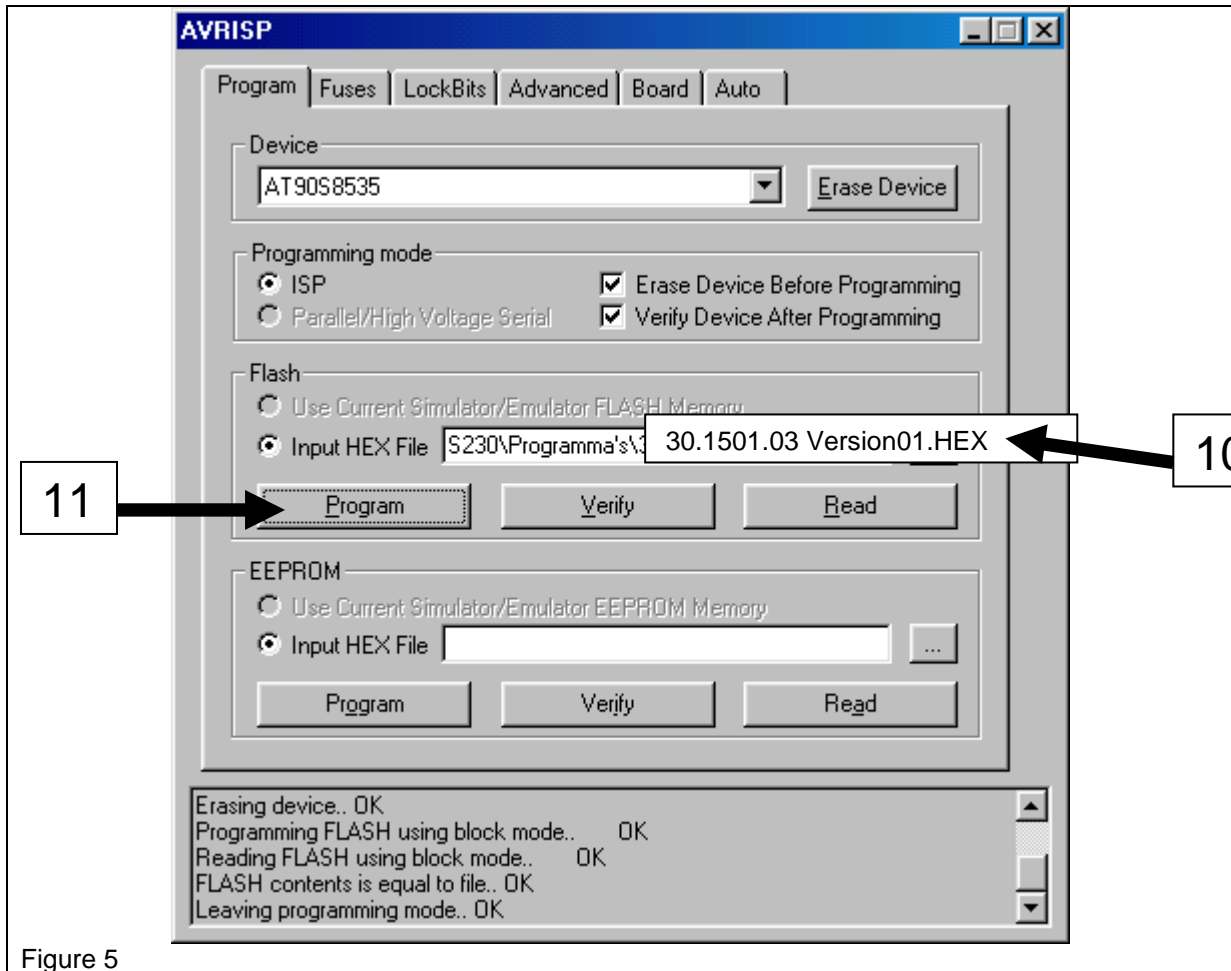


Figure 5

12. Turn off the machine
13. Reconnect the wire unscrewed during procedure 2.
14. Remove the cable from the little box on the panel
15. Turn on the machine again
16. Reset the print to the standard value.  
See chapter **SETTINGS: OPERATING PANNEL FS2.1148 / FS2.1130 BOARD**
17. Set print to requested machine type
18. Introduce again the pallet overlapping value.

**THE STRETCH WRAPPER MACHINE IS NOW READY FOR OPERATION**

## PHOTO ELECTRIC CELL FS 230 – FS 250 – FS 270 – FS 270+

Connection standard photocell N5.2635

Brown = Plus (in this case connected to white (Light on / Dark on))  
Blue = Minus  
Black = Signal to the machine wire 3 (J6 – E3)

Connection photocell for black film N5.2638 (Is the same as the standard cell, only changing the photocell is ok)

Brown = Plus (in this case connected to white (Light on / Dark on))  
Blue = Minus  
Black = Signal to the machine wire 3 (J6 – E3)

The timer for the detection of the goods is equal to the time for the pallet overlap. ( **F0** )  
Thus the longer the setting for the timer, the longer before the photo electric eye stops to detect the different goods.

### Special setting Photocell FS230

To adjust the timer for the detection of the pallet goods.

- We use the bottom wraps potential meter to adjust the photocell delay
- Value 10 is approx. 10 sec.
- Adjust the bottom wraps for example to 5
- Push the stop button until the green LED flashes (Approx. 5 sec.
- Now we have set the timer for the photocell delay at 5 sec.
- The led on the stop button flashes 5 times, this is the value which is memorized.

Maximal overlap approx 60cm

Min overlap approx. 7cm

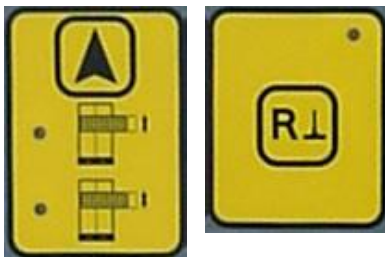
### 1. Single wrapping

After the pre-set number of bottom wraps has been completed, while the turntable is turning, the film carriage will go upwards. When the film carriage has arrived on top and the pre-set number of top wraps has been completed, the turntable will halt. De film can be cut now on top. After pushing start again the machine restarts with the descend only program. (Also FS 230)

### 2. Double wrapping

The complete (double) wrapping program will be executed with this function. After completing the pre-set number of bottom wraps the film carriage will go upwards, then it halts to lay the top wraps, while the turntable keeps turning, and then it will go downwards again. Another number of pre-set bottom wraps is laid, after which the turntable will halt. Now the film can be cut and the pallet can be transported. (Also FS 230)

### 3. Manual program



#### Manual program

Press first the reset button and than the program selector. Both LED's of the selector will be switched ON.

After pushing start the table will start to rotate. Move the carriage with the Manual Carriage Up or Down button and the manual program will be executed.

Version 02 machines.



