

SERVICE NEWS: PG86 CPM2A Reemplazado por CP2E PG1005

Note 0144

Table of Contents:

- **Materials required.**
- **Change procedure.**
- **Table of equivalences.**
- **Display connection.**
- **Display configuration word.**
- **Display configuration.**
- **Display recording.**

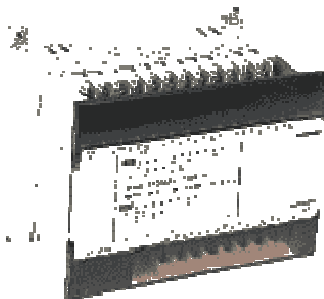
1. Materials required.

- CP2E 30 I/O MAESTRO 11200001219300 1 UN
 - Communication modules. 11200002326200 1 UN *
 - Display cable supplied by supplier. 11200002329100 1 UN *
-
- Former Program: 11EPG000086
 - Old Wiring Diagram: 0-55.1-3.0446_02
 - New Program: 11EPG001005_00
 - Display program: 11EDP0000006

2. Change procedure.

1. Mark all wires of the CPM2A.
2. Release the expansion of the PLC and remove it (in case it has an expansion).
3. Mount CP2E PLC master in control cabinet and connect the expansion if it has one (Green Rectangle).
4. Wire the new plc according to the equivalence table.
5. We will place in the Master the supplied communication ports. The one on the left (Red Rectangle) will be destined to the display and the one on the right (Blue Rectangle) to the communication cable with the control center. *
6. The communication cable with C.C., we will use the same that we had previously. *
7. We will use the new cable supplied to replace the old display cable. *
8. The nomenclatures of the inputs are identical in the two types of plcs. Those of the outputs are different although the distribution of the terminals is the same.

* ONLY IF IT HAS A DISPLAY.



Old PLC OMRON CPM2A



New PLC CP2E



3. Table of Equivalencies.

INPUT SIGNALS.	CPM2A	CP2E
Drive Chain.	0.0	0.0
Brake detector 1 left.	0.1	0.5
Brake detector 1 right.	0.2	0.6
Motor speed.	0.3	0.4
Lubrication.	0.4	0.3
Left synchronism.	0.5	0.1
Right Synchronism.	0.6	0.2
lower treadle detector.	0.7	0.7
Upper treadle detector.	0.8	0.8
User Stop.	0.9	0.9
Review.	0.10	0.10
Safety relay.	0.11	0.11
Detector brake 2 left.	1.00	1.00
Detector brake 2 right.	1.01	1.01
Automatic Key.	1.02	1.02
Continuous Llavín Continuous.	1.03	1.03
Llavín Up.	1.04	1.04
Lowering Llavín.	1.05	1.05

OUTPUT SIGNALS.	CPM2A	CP2E
Lighting.	10.00	100.00
Run.	10.01	100.01
Traffic light Raise.	10.02	100.02
Traffic light down.	10.03	100.03
Brake 2.	10.04	100.04
PLC pulses.	10.05	100.05
PLC failure.	10.06	100.06
Reset Safety.	10.07	100.07
Up.	11.00	101.00
Down.	11.01	101.01
Star.	11.02	101.02
Triangle.	11.03	101.03

COMMON PLC.	CPM2A	CP2E
	10COM.0	100COM.0
	10COM.1	100COM.1
	10COM.2	100COM.2
	10COM.4	100COM.4

	11COM.0	101COM.0
--	---------	----------

INPUT SIGNALS EXTENSION.	CPM2A	CP2E
Diagnostic 1.	2.0	2.0
Diagnostic 2.	2.1	2.1
Diagnostic 3.	2.2	2.2
Diagnostic 4.	2.3	2.3
Diagnostic 5.	2.4	2.4
Common ECD.	2.5	2.5
Smoke.	2.6	2.6
Missing Upper Step.	2.7	2.7
Missing Lower Step.	2.8	2.8
Thermal Motor.	2.9	2.9
	2.10	2.10
Water level.	2.11	2.11

OUTPUT SIGNALS EXTENSION.	CPM2A	CP2E
ECD Reset.	12.00	102.00
Stop by Stop.	12.01	102.01
	12.02	102.02
	12.03	102.03
	12.04	102.04
	12.05	102.05
	12.06	102.06
	12.07	102.07
	12.07	102.07

COMMON EXTENSION.	CPM2A	CP2E
	12COM.0	102COM.0
	12COM.1	102COM.1
	12COM.2	102COM.2
	12COM.4	102COM.4

4. Connection of the Display.

Signal	Male Connector	Female Connector
Union between	2	7-8
Union between	3	3
Union between	6	4
Union between	9	5

5. Configuration Word of the display.

Bit Number	Designation
X0	Synchronism enabling.
X1	
X2	
X3	
X4	Enabling Missing Step.
X5	
X6	Smoke yes/no.
X7	Water detector yes/no.
X8	
X9	
X10	
X11	
X12	
X13	
X14	Reset of statistics.
X15	Reset of failures-events.

6. Display configuration.

In the following description, we are based on a typical display, it doesn't mean that the one we will find in the installation will have the same screens as this one since it depends on the PLC program as well as on the display itself.

- **Home screen.**

From this first screen we will be able to access all the options that the display allows us. In the idle state of the display this is the screen we will see.



- **Status screen.**

From this first screen we will be able to access the states of the machine, for this we will press the right button to access the first screen.

In this first screen, it will indicate if it is in automatic or continuous mode. If we have the corresponding bit enabled, it will allow us to change from continuous state to automatic state and vice versa. It will also indicate the current status.



If we press the right key again, we will access the second screen that will continue to show us the status of the machine. It will show us the lighting status and will allow us to switch between ON-OFF- AUTO modes.



If we press the right key again, we will access the third screen that will continue to show us the status of the machine. If we have the corresponding bit enabled in the configuration word, it will allow us to change between the Local and Remote modes and, in turn, it will indicate the status.

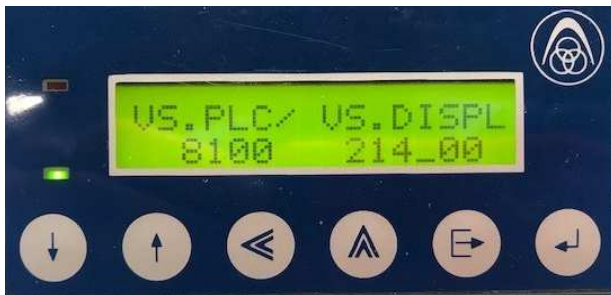


If we press the right key again, we will access the fourth screen. In this it will enable us so that by pressing the third button from the right (F4) we can stop the machine. This is provided that we have enabled the corresponding bit in the configuration word.



- **Screen version PLC and Display.**

If we press the third button from the left and keep it pressed for about 3 seconds, a screen will appear indicating the PLC and Display program number and also the version number. After you release it and 5 seconds pass, it automatically disappears.



- **Password screen.**

If we press the left button while on the first screen, a new screen will appear, which is the pass screen. We have 30 seconds to get this pass. We will consult with TKN the corresponding pass. With the two central keys we can go up and move digits until we reach the chosen one. If we press the right button and the pass is correct, we will access the following screen that tells us that the entered pass is correct and that we press any key. Press it and access the following screen:



6.1 Monitoring.

With the two buttons on the left, we can navigate through the first menus. We have the exit key, this is the second key on the right, with it we always go to the previous menu screen. We also have the right key that is the enter key and with it we access the assigned menu. With the two keys in the center and after having chosen a menu, we can make the necessary changes.



Entering from this screen, the following will appear:

6.1.a Automatic-continuous change.

Here we can choose the type of operation, either continuous 20- 50hz or automatic 0-50-20-0 Hz. To select the mode, we will press the third key for automatic or the fourth for continuous. To go back, press the exit key.



6.1.b Change of lighting operation.

On this screen, we select the lighting operating mode. Key 3, always on, key 4, always off and key 6, will only turn on when the machine is running.



6.1.c Change of local-remote operating mode.

Here we can choose the type of command, either local to act from the machine itself or remote to command from a control center. To select one type or another, press the third key for local mode or fourth for remote mode. We can always go back with the exit key .



6.1.d Stop Screen.

On this screen, it will allow us to stop the machine from the screen itself. To do this, press the third button from the right (F4).



6.2 PLC Clock Change.

In this screen we will access the plc clock so that if necessary we can adjust it, as well as the time, it will allow us to adjust the date.



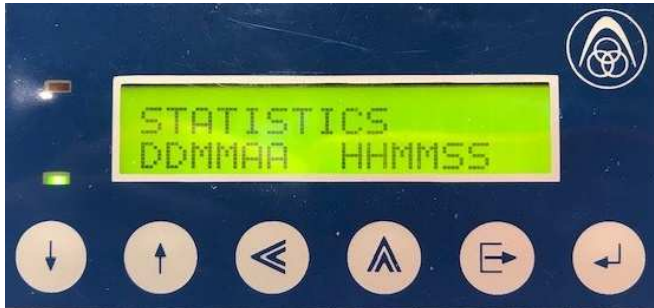
6.3 Maintenance Configuration.

If we access this menu, we will be able to reach a multitude of machine adjustment screens, as well as fault histories, events and statistics. If we press enter, we will go directly to a screen where we have to enter the maintenance code provided by TKN.



6.3.a Statistics.

On this screen the statistics of the machine will appear. Going up, down, maintenance, breakdown and people counter.



6.3.b Failure History.

Here we can see the history of the last 64 faults, we will see the code with its date and the time it occurred.



6.3.c Event History.

Here we can see the history of the last 64 events, we will see the code with its date and the time it occurred.



6.3.d PLC and DISPLAY version.

Here we will be able to see the version that we have of the PLC program as well as that of the Display.



6.3.e High speed time change.

From this screen and pressing ENTER, we can select the time that the machine will be at high speed.



6.3.f Change Password.

Here we can change the input code to the display.



6.3.g Braking distance.

This screen will indicate how far the steps have advanced after stopping the machine.



6.3.h Engine Speed.

In this screen we will adjust the real speed of the motor according to its characteristics plate.



6.3.i Handrail Speed.

In this screen we will adjust the real speed of the band of steps and handrails in cm/sec.



6.3.j Change number of motor pulses.

In this screen we will choose the number of screws that the motor has to read the speed of the machine.

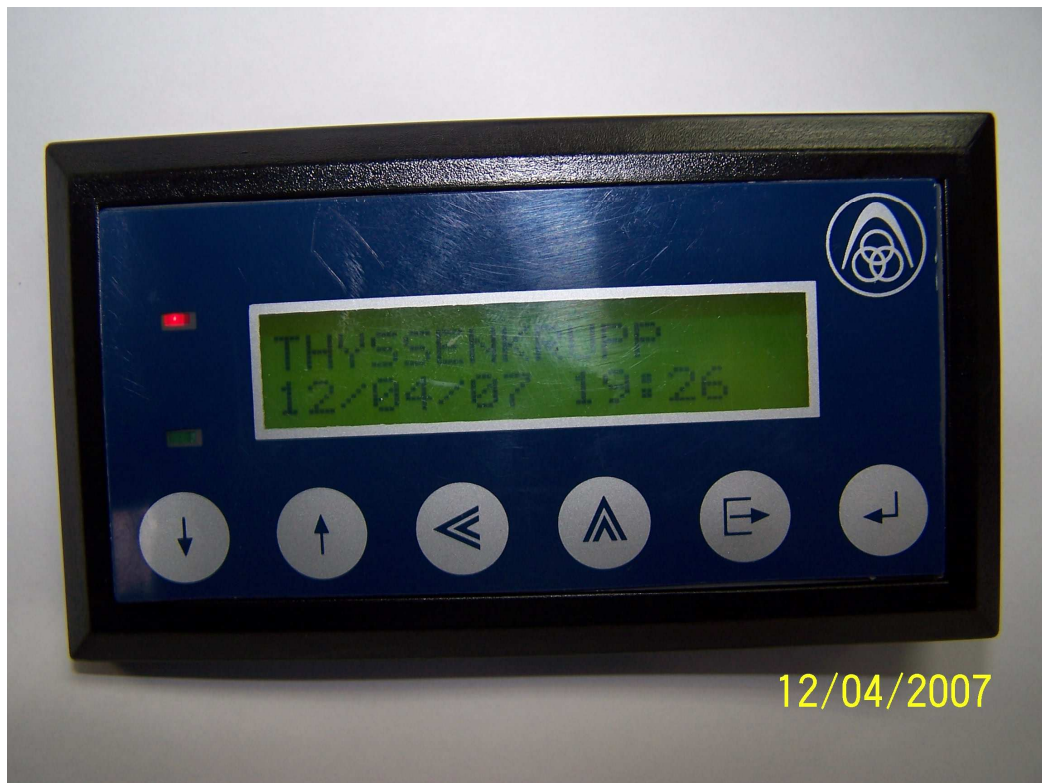


6.3.k Configuration change.

Through these configuration bits, we choose the options available to the machine. Always starting from the right



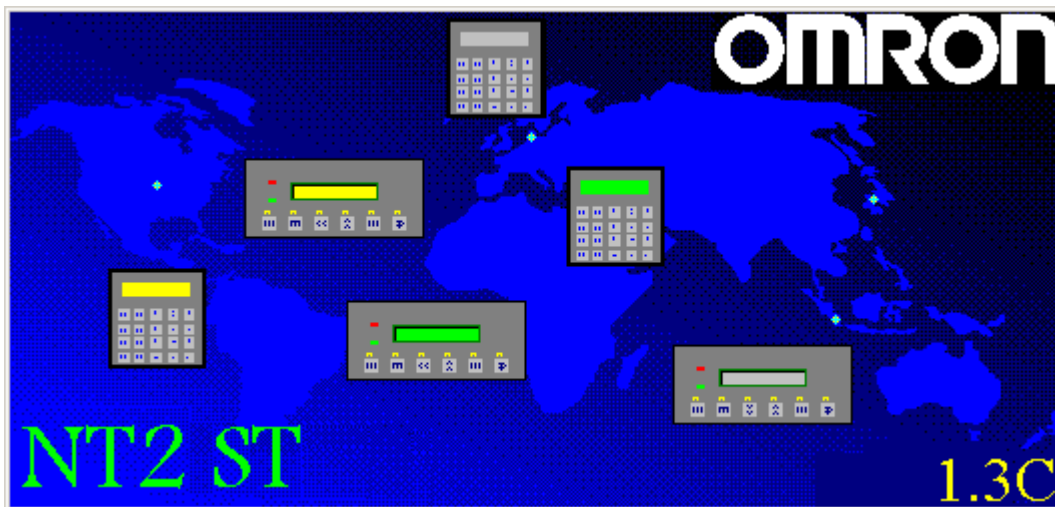
7. Display recording.



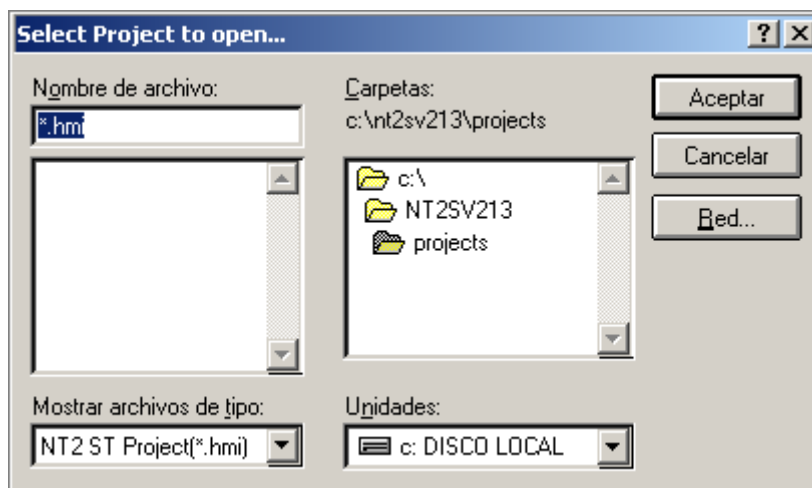
At the moment, we have two display models. The differences between the two are the protocol they use to communicate with the PLC (Modbus or HostLink) and the need or not to have 24v power supply independent from the PLC.

The protocol necessary is already configured in each program 11EDP000XXX and recording is the same for both cases.

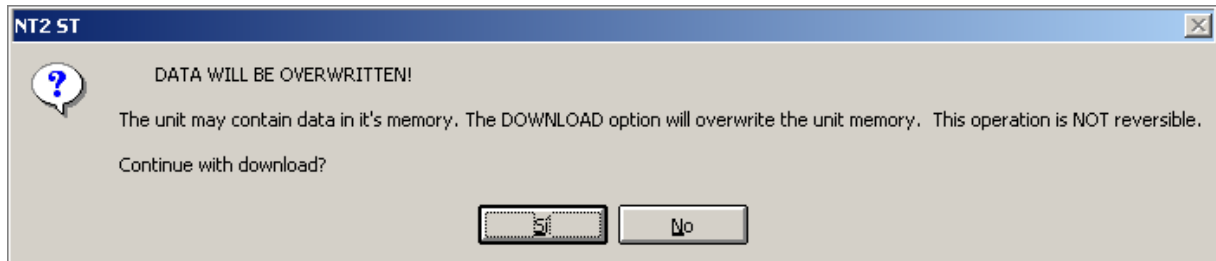
The NT2S application opens



We go to file / open and select the name of the file to transfer:



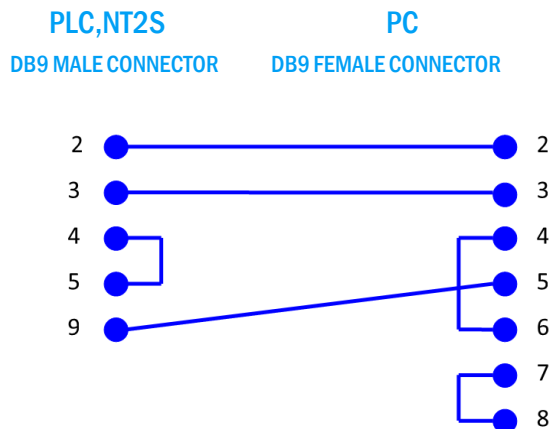
We display the “communicate” menu and within it “write in NT2S”. Gives a warning message:



We say yes. And with that the file transfer begins .

When ends, nothing comes out special message. When the program returns control, the transfer is complete . If the transfer has been correct, it will not come out no error message. In the Host Link programs, at the end of the transfer can go out an error message indicating that the transfer can to have been correct but that verification failed. This message can ignore each other.

In the MODBUS programs (which are the ones that communicate with the PLC Twido, Dubai, Sao Paulo,...) should not appear no mistake.



8. Description of Maneuver operation.

The new PLC program will have the same behavior as the old one, except that some input/output signals have changed position due to differences in the physical configuration between the CPM2A PLC and the CP2E PLC..