

PN 110772 DMS/ PN 112530 DDS/ PN 680079 D25/45 DynaControl EtherNet/IP Adapter Option, V1.10

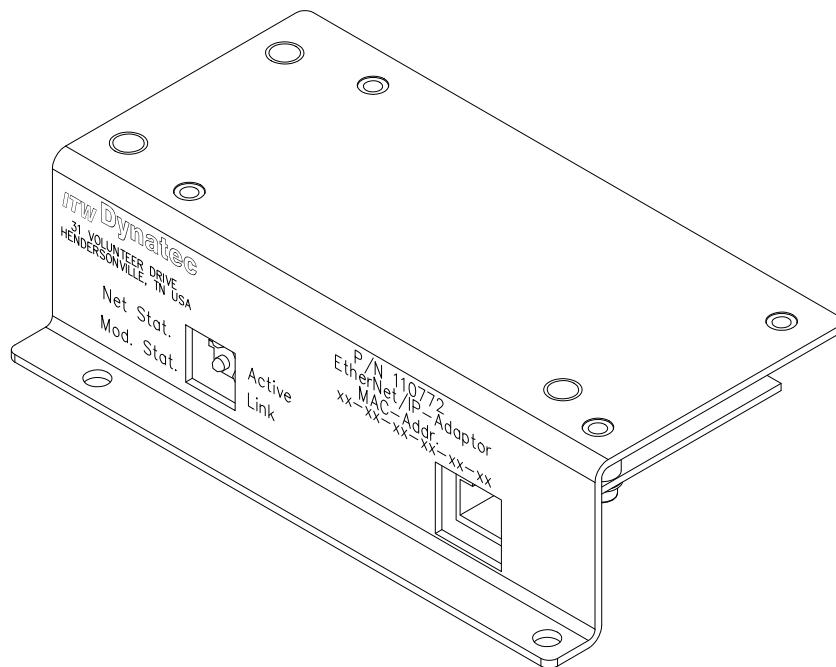
General

This optional adapter provides an EtherNet/IP connection for either the Dynamelt S, the DDS or the D24/45 hot melt ASUs. With this connection it is possible to monitor and control the basic functions of the hot melt unit from a remote PLC or PC. Instructions for Dynamelt S, DDS and D25/45 ASUs are identical.

This adapter uses an ODVA approved module. In order to fully operate, the ASU must be equipped with firmware rev. V5.11S or later.

Basic Features:

- 10/100 Mbit/s
- DHCP/BootP
- Access to basic process parameters
- Local and remote access
- Watchdog signal



Installing the EtherNet/IP-Adapter Hardware

(See the following page for Figure A and B illustrations.)

Installation Procedure

REFER TO FIGURE A

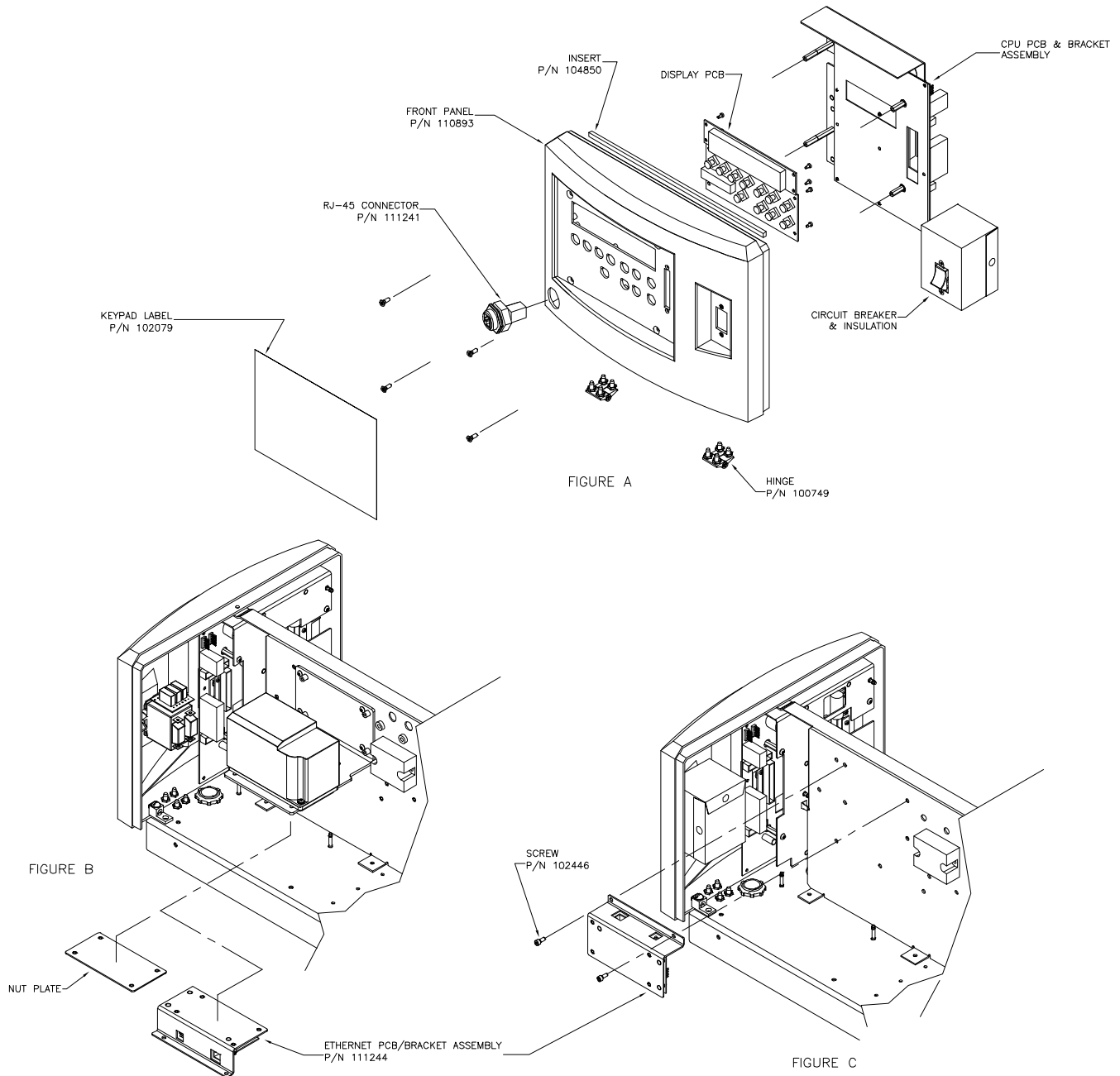
1. DISASSEMBLE FRONT PANEL ASSEMBLY FROM ASU BASE.
2. REMOVE CPU PCB AND BRACKET ASSEMBLY, DISPLAY PCB, CIRCUIT BREAKER, AND CIRCUIT BREAKER INSULATION.
KEEP ALL SPACERS, STANDOFFS AND SCREWS FOR RE-ASSEMBLY TO NEW FRONT PANEL.
3. INSTALL PANEL INSERT (P/N 104850) INTO FRONT PANEL.
4. ASSEMBLE ALL COMPONENTS TO NEW FRONT PANEL (P/N 110893) USING EXISTING SPACERS AND STANDOFFS AND NEW FLAT HEAD SCREWS (P/N 109613) SUPPLIED WITH THE KIT.
5. ATTACH NEW KEYPAD OVERLAY (P/N 102079) SUPPLIED WITH THE KIT.
6. INSTALL NEW PANEL HINGES AND RE-ASSEMBLE FRONT PANEL TO ASU BASE.
7. ASSEMBLE THE RJ-45 ETHERNET CONNECTOR (P/N 110867) TO THE FRONT PANEL.

IF THE ASU IS EQUIPPED WITH A GEAR PUMP AND MOTOR REFER TO FIGURE B

8. REMOVE THE SCREWS ATTACHING THE MOTOR SPEED CONTROL TO THE NUT PLATE.
DISCARD THE NUT PLATE AND REPLACE WITH THE ETHERNET PCB/BRACKET ASSEMBLY (P/N 111244).
RE-ATTACH THE MOTOR SPEED CONTROL.

IF THE ASU IS EQUIPPED WITH A PISTON PUMP REFER TO FIGURE C

8. ASSEMBLE THE ETHERNET PCB/BRACKET ASSEMBLY (P/N 111244) TO THE VERTICAL PANEL IN LOCATION SHOWN USING THE SOCKET HEAD SCREWS (P/N 102446) SUPPLIED WITH THE KIT.
9. USING CABLE ASSEMBLY P/N 110866 CONNECT THE ETHERNET PCB TO THE RJ-45 CONNECTOR INTERNALLY.
10. USING CABLE ASSEMBLY P/N 110779 CONNECT THE ETHERNET PCB TO X6 ON THE CPU PCB.



Installing the EtherNet/IP-Adapter Software in a ControlLogix5000 System

These installation steps assume that RSLogix5000 and ControlLogix5000 with an EtherNet/IP module/bridge (1756 ENBT or similar) are set up and working properly.

1. Connect the Dynatec Hot melt unit (ASU) to the Ethernet network using a standard RJ45-cable.
2. Start RsLogix5000 with a new or existing project. Set to “Offline” mode.
3. **Add the EtherNet/IP-Adapter to the PLC Configuration:**
 - Start by right clicking the EtherNet/IP module/bridge in the configuration
 - Select “New Module”
 - Select “Generic Ethernet Module”
 - Press OK
4. **Configure the EtherNet/IP-Adapter:**
 - Enter the name of the module. (for example “Dynatec Melter”. If you desire to import the controller tags provided on the CD-ROM, the module name must be exactly “Dynatec Melter”. See step #6 following).
 - Set *Comm Format* to “Data-INT”, since all data are 16-bit words
 - Set *Connection Parameter Assembly Instance* to 100 for Input and 150 for Output
 - Set *Size* for both to 64 (16-bit)
 - Set the *Configuration Instance* to 1 but the size to 0 since this instance is not supported
 - Set the IP-Address to 192.168.23.180. For more details about IP-Address see the following section, “Changing the IP-Address”
 - Press *Next* >
 - On next dialog, select *Requested Packet Interval: 100ms*
 - Do not Inhibit Module
 - Press *Finish* >>. On the main screen you should see the ETHERNET-MODULE under the I/O Configuration
 - Select “Go Online” from the “Communications” menu
 - Select “Download” in the next window
 - Confirm the Download

5. Checking the I/O Tags

After successful configuration of the EtherNet/IP-Adapter, it is possible to access the input/output data. There are three Controller Tags: “Dynatec Melter: C”, “Dynatec Melter: I” and “Dynatec Melter: O”. The input/output tags consist of 64 words each.

“Dynatec Melter: C” is the configuration tag (not used).

“Dynatec Melter: I” is the data coming from the Dynatec hot melt unit

“Dynatec Melter: O” holds the data going to the hot melt unit.

The definitions of the data tags are explained in the last two pages of this section.

6. Importing Controller Tags

The CD-ROM that is provided with the EtherNet/IP option contains a pre-defined controller tag table. In order to save time, this table may be imported.

- In the RSLogix5000 go offline

- Select Tools -> Import Tags
- Select the "Dynatec-Controller-Tags. CSV" from the CD-ROM
- Click Import
- If the import was successful, the Report Window in the lower part of the screen should indicate 81 imported tags.
- Go back to the controller tag screen and verify the tags.

Details on the Communication

Local Access

As soon as a valid communication is established, the PLC gains control over the hot melt unit. The PLC has priority over the local keypad on the hot melt unit. Nevertheless, it is possible to enter the new setpoints locally. In order to coordinate this, the OUT-word 22 and 23 are used.

The access control is separate for temperature and motor setting.

- Setting LocalAccessTemps to 1 allows the user to make changes to the temperature setpoints on the hotmelt unit. The PLC can read the changes from the corresponding IN-words but the temperatures in the OUT area will not be effective on the hot melt unit.
- Setting LocalAccessTemps to 0 switches the control back to PLC control. All temperature OUT-words will be transferred to the hot melt unit. A local change of temperature setpoints is not possible since the PLC will instantly overwrite the entry.
- LocalAccessMotors controls the access to pump settings analog to the description above.
- After a local change of setpoints, the PLC first must read the new setpoints before switching back to PLC control.
- It is not possible to deactivate a temperature zone locally on the hot melt unit since the PLC always sends the ZoneEnable/Disable information.

Zones Enabling/Disabling

Temperature zones that are temporarily not used can be remotely deactivated by setting a corresponding value to OUT-word 24. Each bit of this word represents one temperature zone. Bit0 = zone1, Bit1 = zone2 etc. Setting the bit will activate the zone. Resetting will deactivate the zone.

Motor Controller

It is possible to change the mode and the manual speed of the pump(s) of Dynamelt S units equipped with gear pumps. When the PLC must control the pump speed, Local Access Motors must be set to 0.

The pump mode (Word 18 & 19) must be set to the ASCII equivalent value for 'M' –Manual (PLC control), 'A' –Automatic (line following, 0 to 10V), or 'S' –Stop.

If set to manual, the manual speed (Word 20 & 21) will be active. This speed setting must be transmitted in increments of 0.1% (0 to 1000 = 0.0 to 100.0%).

If the hot melt machine is equipped with a pump rpm readout, the actual pump speed can be read in word 48 (word 49 for pump #2). This value represents the actual pump speed X 10 (0.0 to 100.0 rpm).

If the pump is running in automatic mode, the pump speed setpoint, which follows the line speed using the 0-10V input, can be read in word 50 (word 51 for pump #2). This value shows 0.1% resolution (0 to 1000).

Note: If the hotmelt machine has a minimum pump speed programmed, this speed will be active and indicated here in case the parent machine is in standby.

Adhesive Level Indication

Word 54 shows the state of the optional adhesive level control. A 0 indicates the level is O.K. and a 1 indicates a low-level situation. This signal is an instantaneous non-latched indication.

In order to avoid local low-level indications, which have to be reset on the keypad, the low-level detection should be disabled in the customer set-up menu of the Dynamelt S hot melt unit.

Zone Status Indication

IN-words 56 to 60 indicate the status of all zones. This information is bit-wise coded.

Example: Dec. Hex. Binary 15~0 = Zone 16 to 1 .

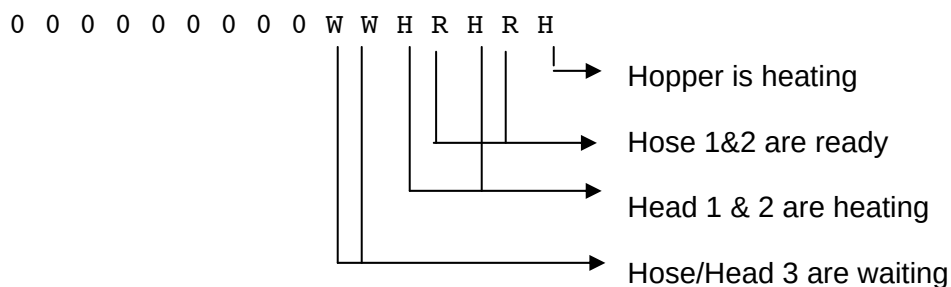
IN-word 56: 127 007Fh 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1

IN-word 57: 96 0060h 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0

IN-word 58: 21 0015h 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 1

IN-word 59: 10 000Ah 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0

IN-word 60: 0 0000h 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0



Note: If IN-word 60 is not 0, at least one temperature zone is in Alarm mode.

Temperature Unit

The temperature units used for the communication can be changed between Fahrenheit and Celsius. The OUT-word 26 decides between the units. A value of “0” selects °F, a value of “1” selects °C.

Identification Word

OUT-word 63 is used as an identification word. This word must be set to a certain value to validate the communication. If this word is set differently, the hot melt unit will not accept the OUT area although the IN-area will show proper values. Dynamelt S hot melt units require ID-word set to 34 for unmonitored communication or a toggling word of 0/1 for monitored communication. If toggle mode is used, the word should toggle once per second to validate communication. Once toggle mode is used, the unmonitored communication can't be used again. In monitored communication, the Dynamelt unit switches off pumps after 4 seconds if communication seems to be broken. Dynatec recommends use of the monitored communication for security reasons.

Examples for a typical communication

Initializing:	Set OUT 52 to 1:	Switches the controller on
	Set OUT 63 to 34:	Identifies the communication
	Set OUT 22 to 1:	User can change setpoints locally
	Set OUT 26 to 0:	Set temperature units to Fahrenheit (or use 1 for Celsius)
	Set OUT 23 to 0:	PLC controls pump speed, no local access
	Set OUT 18 to 77:	Motor mode must be in Manual to allow PLC control
3-Hose Operation:	Set OUT 24 to 127:	Zones 1 to 7 are enabled
2-Hose Operation:	Set OUT 24 to 31:	Zones 1 to 5 are enabled
Ready Condition:	Compare OUT 56 with OUT 59:	If both words are equal, then the system is ready

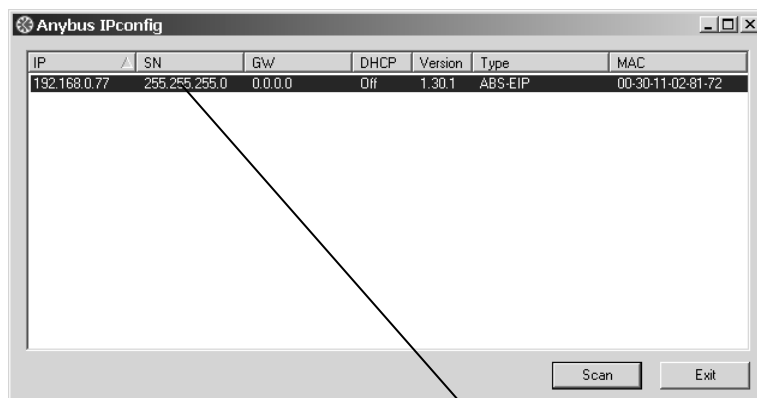
Changing the IP-Address

The EtherNet/IP-Adapter will be factory set to 192.168.23.180 but the DHCP/BOOTP function is enabled. That means the module will request a new IP-address after power up. If this request is not serviced, the old IP-address will be valid.

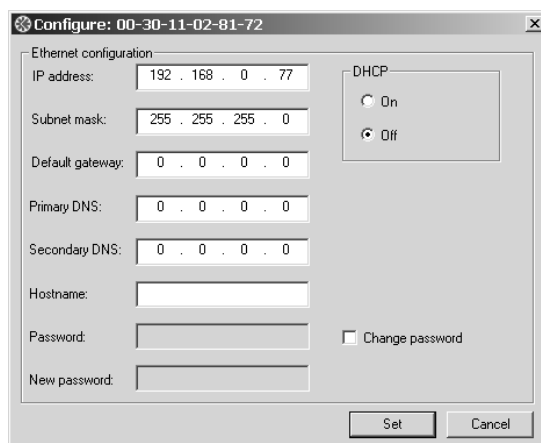
There are several ways to change the IP-address. In any case, a PC must be connected to the module, either directly via crossover cable or via hub/switch to the network with the module.

Using the Ethernet IP Changing Utility (recommended)

Provided with the module a Microsoft Windows® application called IPConfig is included. The program checks the network and shows all found Dynatec units equipped with Ethernet/IP. You can double-click onto the unit to see an additional menu that allows you to change the network settings.



Double-click onto the found Dynamelt unit.



You can now enter a new IP address and the other necessary parameters for your network configuration. Press “Set” to confirm your changes.

Using the ARP Command

The MS-DOS™ command ARP can be used to change the IP-address. Please consult your network administrator if you are not familiar with this matter.

In order to process this command, you need the MAC address of the module. This can be found on the holding bracket.

- Connect the EtherNet-cable to a PC network
- Open a MS-DOS™ window
- Type: arp -s <IP-address> <MAC-address>
- Type: ping <IP address>
- Type: arp -d <IP-address>

Notes: The first three bytes of the IP-address must be the same as the PC executing the arp command. It is normal that after changing the IP-address via arp command, the first ping command shows one lost data package.

Using the Configuration File

The file ethcfg.cfg can be used to change the IP-address. This method is possible only if the actual IP-address is known (e.g. the factory set 192.168.23.180), See also section “Configuration File”.

- Open a FTP connection to the module (e.g. Windows Explorer™ <FTP://192.168.23.180>)
- Locate the ethcfg.cfg
- Copy this file to a folder on your PC
- Open the file with any text editor
- Change the IP-address
- Save the file using the same name
- Copy the file back to the module
- Re-cycle power on the module (hot melt unit)

Note: If the configuration file ethcfg.cfg is not found, the module will automatically activate a DHCP/BOOTP request.

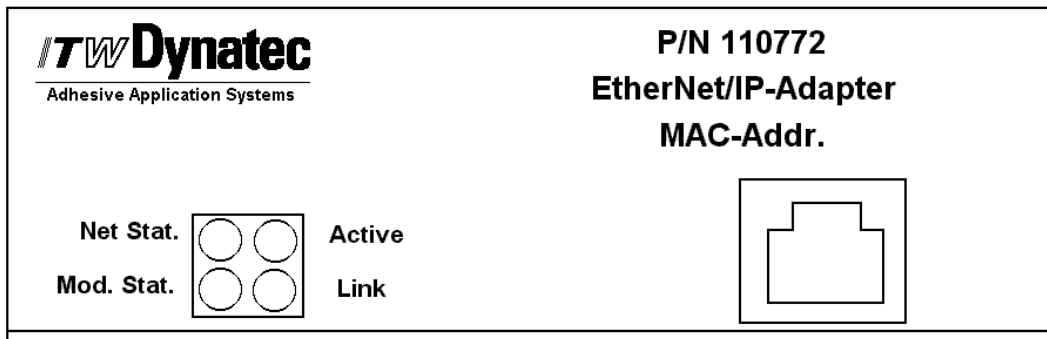
Using the BootP-Server Function

The BOOTP-Server comes with the RSLinx Tools of the Rockwell Automation™ Software or can be downloaded as a stand-alone application. Version V2.3.2 or newer allows to change the IP-address of the EtherNet/IP module.

Note: The EtherNet/IP module only requests an IP-address assignment for approx. 30 sec.

If this request is not serviced within this time (by entering the desired IP-address in the relation list) the module's power (hot melt machine) must be re-cycled.

Diagnostic LED's



1. Net Stat. = Network Status

State	Summary	Description
Steady Off	No power or no IP address	The module has no power or no IP address has been assigned.
Steady Green	Connected	The module has at least one established EtherNet/IP connection.
Flashing Green	No connections	There are no EtherNet/IP connections established to the module.
Flashing Red	Connection Timeout	One or more of the connections in which this module is the target has timed out. This state is only left if all timed out connections are re-established or if the module is reset.
Steady Red	Duplicate IP Address	The module has detected that its IP address is already in use
Flashing Green/Red	Self-Test	The module is performing a power on self test

2. Active = This led flashes green each time a packet is received or transmitted.

3. Mod. Stat. = Module Status

State	Summary	Description
Steady Off	No power	The module has no power.
Steady Green	Device operational	The module is operating correctly.
Flashing Green	Standby	The module has not been configured.
Flashing Red	Minor Fault	A minor recoverable fault has been detected
Steady Red	Major Fault	A major internal fault has been detected
Flashing Green/Red	Self-Test	The module is performing a power on self test

4. Link = Link Activity

Color	State	Description
Green	On	The module has a link
	Off	The module does not sense a link

Configuration File

The EtherNet/IP module contains a file (ethcfg.cfg) that is read by the module at start up. This file defines the network properties of the module. Any text editor can be used to edit the parameters.

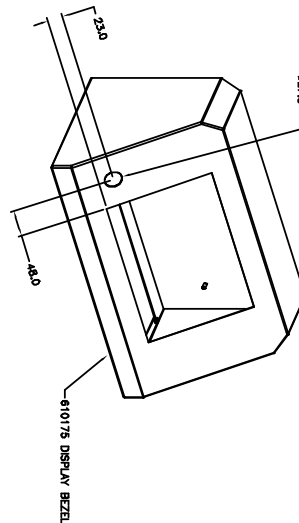
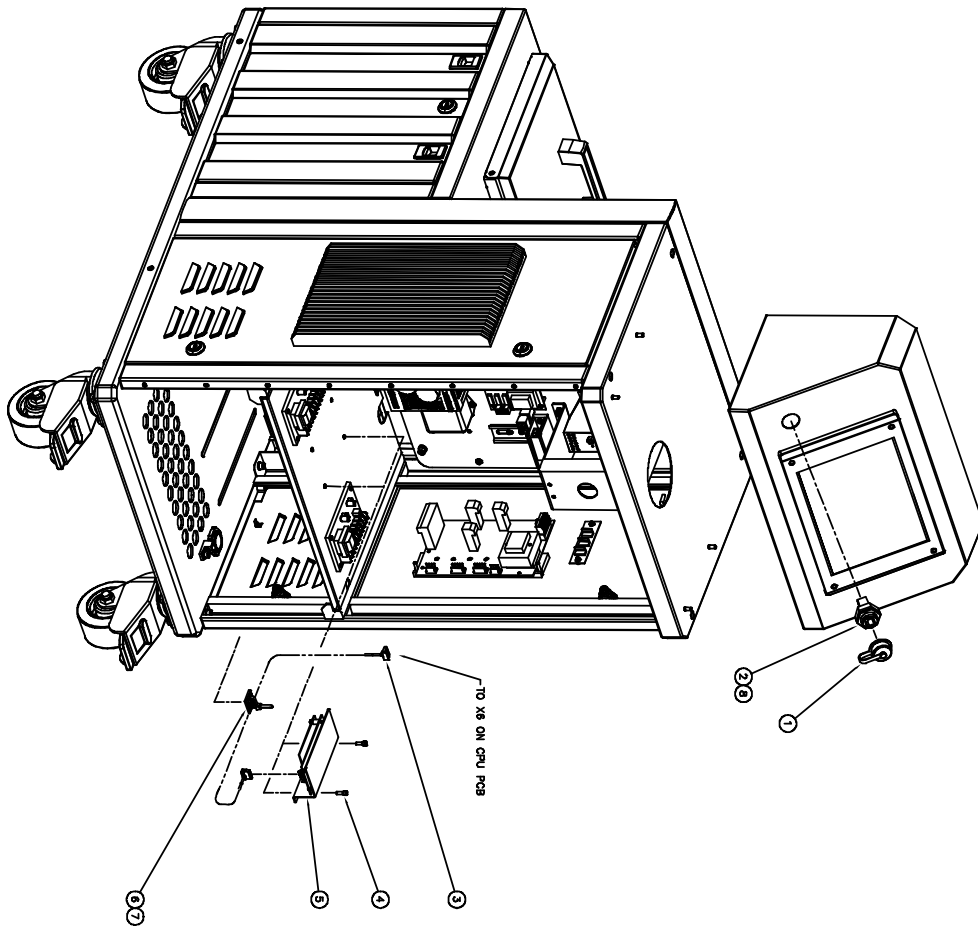
Note: It is very important to follow the exact syntax specification, otherwise the module might have problems interpreting it, which can result in a faulty or non-expected behavior.

The file can be uploaded and after modification, downloaded using the FTP function.
(e.g. open a Windows Explorer window. Type 'FTP://192.168.23.200')

The format of the file is shown as follows:

FORMAT	EXPLANATION
[IP address] 192.168.23.180	IP Address
[Subnet mask] 255.255.255.0	Subnet mask
[Gateway address] 0.0.0.	Gateway address
[DHCP/BOOTP] ON	DHCP/BootP ON - Enabled OFF – Disabled
[SPEED] Auto	Speed Auto – Default. Auto Negotiation will be used. 100 – Forces the module to operate at 100Mbit/s only 10 – Forces the module to operate at 10Mbit/s only

FORMAT	EXPLANATION
[Duplex]	Duplex
Auto	Auto – Default. Auto negotiation will be used. Full – Forces the module to operate at full duplex only Half - Forces the module to operate at half duplex only
[SMTP address] 0.0.0.0	SMTP server/ login settings
[SMTP username] username	SMTP server/ login settings
[SMTP password] password	SMTP server/ login settings
[DNS1 address] 0.0.0.0	Primary and Secondary DNS
[DNS2 address] 0.0.0.0	Primary and Secondary DNS
[Domain name] hms.se	Domain Name (Optional)
[Host name]	Host Name (Optional)



NOTES:

1. ADD HOLE TO DISPLAY BEZEL FOR MOUNTING BULKHEAD CONNECTOR (ITEM 2).
2. ASSEMBLE ETHERNET PCB/BRACKET ASSY (ITEM 5) TO PANEL IN LOCATION SHOWN.
3. PLUG ONE END OF THE RJ-45 CABLE (ITEM 6) INTO THE BACK OF THE BULKHEAD CONNECTOR, AND THE OTHER END INTO THE CONNECTOR ON THE ETHERNET PCB (ITEM 5).
4. PLUG THE INTERNAL ETHERNET CABLE ASSY (ITEM 3) INTO J4 ON THE ETHERNET PCB (ITEM 5) AND X6 ON THE CPU PCB. USE THE CABLE TIES AND ANCHORS (ITEMS 6 & 7) TO ROUTE THE CABLE.
5. IF THIS KIT IS BEING SHIPPED FOR FIELD INSTALLATION, PLACE THE ETHERNET PCB INTO AN ANTI-STATIC BAG, PLACE ALL ITEMS INCLUDING THE PCB INTO A PLASTIC BAG FOR SHIPMENT, AND WRITE THE KIT PART NUMBER ON THE BAG IN INDELIBLE INK. INCLUDE A COPY OF THIS DRAWING WITH THE KIT.

1	111244	1	EA	ANCHOR, CABLE TIE
2	111244	2	EA	FCB/BAZOOKA ASSY
3	610173	2	EA	SCREW, SHC, M4x0.7 X 12
4	110779	1	EA	CABLE ASSY, ETHERNET/PI INTERNAL
5	110847	1	EA	CONNECTOR, BULKHEAD PASS THRU, BAKELITE
6	111241	1	QAP	BULKHEAD CONNECTOR
7	111241	1	QAP	BULKHEAD CONNECTOR
8	110856	1	EA	SUPPORT DISK, ETHERNET/PI (NOT SHOWN)
9	110856	1	EA	SUPPORT DISK, ETHERNET/PI (NOT SHOWN)
10	0648109	2	EA	CABLE TIE
11	NO-264	2	EA	CABLE TIE
12	110856	3	EA	CABLE ASSY, CAT5E, 3 FT. (NOT SHOWN)
13	110856	3	EA	CABLE ASSY, CAT5E, 3 FT. (NOT SHOWN)
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**Dynacontrol - EtherNet/IP
Data Table**

Date: 01/21/11
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IN-Area (Dynacontrol to PLC)

Version: V1.10 (V5.36S)

Word Address	Function	Zone Name	Valid Range
0	Reserved		
1	Reserved		
2	Setpoint Zone 1	Hopper	
3	Setpoint Zone 2	Hose 1	
4	Setpoint Zone 3	Head 1	
5	Setpoint Zone 4	Hose 2	
6	Setpoint Zone 5	Head 2	
7	Setpoint Zone 6	Hose 3	
8	Setpoint Zone 7	Head 3	
9	Setpoint Zone 8	Hose 4	
10	Setpoint Zone 9	Head 4	
11	Setpoint Zone 10	Hose 5	
12	Setpoint Zone 11	Head 5	
13	Setpoint Zone 12	Hose 6	
14	Setpoint Zone 13	Head 6	
15	Setpoint Zone 14	Premelt Zone	
16	Setpoint Zone 15	-	
17	Setpoint Zone 16	-	
18	Motor Mode Pump 1	Pump	'S' (83) = Stop / 'M' (77) = Manual / 'A' (65) = Auto
19	Motor Mode Pump 2	-	
20	Manual Speed Pump 1	Pump	0 to 1000 = 0.0 to 100.0% [500 = 50.0%]
21	Manual Speed Pump 2	-	
22	Pressure Channel 1	-	
23	Pressure Channel 2	-	
24	Pressure Channel 3	-	
25	Pressure Channel 4	-	
26			
27			
28			
29			
30			
31			
32	Actual Temp. Zone 1	Hopper	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
33	Actual Temp. Zone 2	Hose 1	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
34	Actual Temp. Zone 3	Head 1	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
35	Actual Temp. Zone 4	Hose 2	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
36	Actual Temp. Zone 5	Head 2	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
37	Actual Temp. Zone 6	Hose 3	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
38	Actual Temp. Zone 7	Head 3	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
39	Actual Temp. Zone 8	Hose 4	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
40	Actual Temp. Zone 9	Head 4	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
41	Actual Temp. Zone 10	Hose 5	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
42	Actual Temp. Zone 11	Head 5	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
43	Actual Temp. Zone 12	Hose 6	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
44	Actual Temp. Zone 13	Head 6	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
45	Actual Temp. Zone 14	Premelt Zone	0 to 500°F (1999 = open sensor / 999 = shorted sensor)
46	Actual Temp. Zone 15	-	
47	Actual Temp. Zone 16	-	
48	Actual Speed Pump 1	Pump 1	0 to 1500 = 0.0 to 150.0 RPM
49	Actual Speed Pump 2		
50	Line Speed Pump 1	Pump 1	0 to 1000 = 0.0 to 100.0%
51	Line Speed Pump 2		
52	Controller ON/OFF		0 = controller is OFF / 1 = controller is ON
53	Standby ON/OFF		0 = Normal Mode / 1 = Standby is active
54	Adhesive Level Status		0 = Level is OK / 1 = Level is low
55	Zone RTD Fault *3	Each zone is represented by the corresponding bit in these 16 bit	0 = RTD on this Zone is o.k. / 1 = RTD Fault on this Zone
56	Zone On/Off 'O' *3		0 = Zone deactivated / 1 = Zone activated
57	Zone Waiting 'W' *3		0 = Zone is not waiting / 1 = Zone is waiting
58	Zone Heating 'H' *3		0 = Zone is not heating / 1 = Zone is heating

59	Zone Ready 'R' *3	words	0 = Zone is not ready/ 1 = Zone is ready
60	Zone Alarm 'A' *3		0 = Zone has no alarm / 1 = Zone has alarm
61	System Status		Bit0: Motor in Run mode, Bit1: Temperatures ready, Bit2: Pump enable temp. reached, Bit3: Low temp. thermostat closed
62			
63	Watchdog		Signal toggles every 0.5sec. (0/1)



**Dynacontrol - EtherNet/IP
Data Table**

Date: 01/21/11

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**OUT-Area (PLC to
DynaControl)**

Version: V1.10 (V5.36S)

Word Address	Function	Zone Name	
0	Reserved		
1	Reserved		
2	Setpoint Zone 1	Hopper	100°F - 425°F / 50°C - 218°C
3	Setpoint Zone 2	Hose 1	100°F - 425°F / 50°C - 218°C
4	Setpoint Zone 3	Head 1	100°F - 425°F / 50°C - 218°C
5	Setpoint Zone 4	Hose 2	100°F - 425°F / 50°C - 218°C
6	Setpoint Zone 5	Head 2	100°F - 425°F / 50°C - 218°C
7	Setpoint Zone 6	Hose 3	100°F - 425°F / 50°C - 218°C
8	Setpoint Zone 7	Head 3	100°F - 425°F / 50°C - 218°C
9	Setpoint Zone 8	Hose 4	100°F - 425°F / 50°C - 218°C
10	Setpoint Zone 9	Head 4	100°F - 425°F / 50°C - 218°C
11	Setpoint Zone 10	Hose 5	100°F - 425°F / 50°C - 218°C
12	Setpoint Zone 11	Head 5	100°F - 425°F / 50°C - 218°C
13	Setpoint Zone 12	Hose 6	100°F - 425°F / 50°C - 218°C
14	Setpoint Zone 13	Head 6	100°F - 425°F / 50°C - 218°C
15	Setpoint Zone 14	Premelt Zone	100°F - 425°F / 50°C - 218°C
16	Setpoint Zone 15	-	
17	Setpoint Zone 16	-	
18	Motor Mode Pump 1	Pump	'S' (83) = Stop / 'M' (77) = Manual / 'A' (65) = Auto
19	Motor Mode Pump 2	-	
20	Manual Speed Pump 1	Pump	0 to 1000 = 0.0 to 100.0% [500 = 50.0%]
21	Manual Speed Pump 2	-	
22	Local Access Temps.	all Temps.	1 = Local Access Enable
23	Local Access Motors	all Pumps	1 = Local Access Enable
24	Zones Enable	Zone 1 to 16	each bit: 1 = zone enabled
25	Error Reset	-	0 to 1 transition will reset RTD fault
26	Temp. Unit Selection	-	0 = Fahrenheit / 1 = Celsius
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52	Controller ON/OFF	0 will switch off / 1 will switch on
53	Standby ON/OFF	0 selects normal / 1 activates Standby Mode
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58		
59		
60		
61		
62		
63	Identification Word	Set to 34 or toggle between 0/1 to validate communication