

With the release of version 2.5.0 firmware, it is possible to view Ethernet debugging information via the web server. This information will list the number of connections active, and available. A new controller alarm (140B 0005) has also been added to indicate if the number of available file descriptors is low.

Accessing the Ethernet debugging data

Connect to the web server using Internet Explorer or other browser with an IE-compatible plugin. Login with Admin credentials:

Controller	Login	Password
MP2300Siec	Admin	MP2300S
MP2310iec	Admin	MP2300S
MP2600iec	Admin	MP2600
MP3200iec	Admin	MP3200
MP3300iec	Admin	MP3300

The screenshot displays the Yaskawa MP3300iec web interface. On the left is a blue navigation menu with the Yaskawa logo and links for Home, Operation, and Configuration. The main content area shows a welcome message and a 'Version Information' table. A red circle highlights the 'Login...' link in the menu, and a red box highlights a login form overlay with 'Login: Admin' and 'Password:'. The 'Version Information' table contains the following data:

Version number	3.0.3
Build number	17
Build date	9 February 2015, 20:12:27
Software	MP3300iec
Hardware	CP3311-2-E
Serial	J-MP33332

Once logged in, select the Debugging Output page from the menu, then click the Print Network Debugging Info to generate the debugging data.


YASKAWA MP3300iec™

Debugging Output

```
[2015-03-20 14:10:55.640] setting up available servo nets (MLink3/0L1
[2015-03-20 14:10:55.640] creating MLink-III protocol driver
[2015-03-20 14:10:55.640] Creating JL100 device
[2015-03-20 14:10:55.640] Initialize ServoNet
[2015-03-20 14:11:04.780] Found LIO 01 option card in slot 0
[2015-03-20 14:11:04.780] AxisGroupFactory: No kinematics factory pro
[2015-03-20 14:11:04.780]   - system has 0 axes.
[2015-03-20 14:11:04.780] Hooking up the motionScan
[2015-03-20 14:11:04.780] Starting EtherNet/IP
[2015-03-20 14:11:04.790] Starting RMIManager
[2015-03-20 14:11:04.790] adding objects to RMI registry
[2015-03-20 14:11:04.790] creating RMI supervisor
[2015-03-20 14:11:04.790] start connection server
[2015-03-20 14:11:04.790] Starting Web Services
[2015-03-20 14:11:04.850] MP3300iec up and running.
[2015-03-20 14:11:04.880]   IP Address: 192.168.207.198
[2015-03-20 14:11:04.980] I/O Driver Error 340c0100: DigitalIODriver,
[2015-03-20 14:11:05.270] I/O Driver Error 340c0100: DigitalIODriver,
```

The display is a snapshot of the buffers on 03/20/2015 at 15:16:43.
To see an updated buffer snapshot, press 'Refresh Now' (or select auto-refresh).

Auto-refresh every seconds

 Automatically every 60 seconds

[Show Critical Exception Log](#)

The generation of the network debugging port may take up to a minute. Once it is generated, it will be written to the Debugging Output window:

YASKAWA MP3300iec™

Debugging Output

```

=====
|                                     |
|               Network Debugging Information               |
|-----|
|               MAR 20 15:20:37:2015                       |
|-----|
|-----|
|               File descriptors -----|
|-----|
| fd name                                     drv |
| 3 /tyCo/0                                   1 in |
| 4 (socket)                                 6   |
| 5 (socket)                                 6   |
| 6 (socket)                                 6   |
| 7 (socket)                                 6   |
| 8 (socket)                                 6   |
| 9 (socket)                                 6   |
| 10 /Redirect/f8f960_0_0                     7 out |
| 11 /Redirect/f8faf0_0_1                     7 err |
| 12 (socket)                                 6   |
|-----|

```

The display is a snapshot of the buffers on 03/20/2015 at 15:20:40.
To see an updated buffer snapshot, press 'Refresh Now' (or select auto-refresh).

Auto-refresh every seconds

Automatically every 60 seconds

[Show Critical Exception Log](#)

The entirety of the debugging output is shown below. There are five sections:

- The **File descriptors** table is useful to see what files are open on the system. Sockets will just display (socket), however any actual files on the file system will show their paths. This may be useful in debugging problems with corrupted files, or errors in FILE_OPEN due to too many files open (because they're not being closed). Additionally, the number of open sockets in the file descriptor table should match the number of sockets in the socket state table.
- The **mBuf sys pool**, and **mBuf data pool** sections are for developer use only and do not contain information for the user.
- The **Routing Table** can be used to diagnose problems related to multiple IP addresses (e.g. MP2600) on complicated networks.
- The **Socket State** table shows the IP addresses of TCP devices connected to this controller and additional ports open to listen for communications.

In the output below, the controller has three active connections shown in the state ESTABLISHED:

- A web browser connection to 192.168.203.29 (port 80)
- a MWiec program monitoring on 192.168.203.28 (port 20547)
- EthernetIP connection at 192.168.207.206 (port 44818).

The table also shows five open ports in the state LISTEN (listening for any new connection request), and three open UDP ports.

```

=====
| Network Debugging Information |
|-----|
|           MAR 20 15:20:37:2015           |
|----- File descriptors -----|
fd      name                      drv
 3      /tyCo/0                      1 in
 4      (socket)                     5
 5      (socket)                     5
 6      /bpf/dhccpc-arp0             6
 7      (socket)                     5
 8      /Redirect/dff65e8_0_0        7 out
 9      (socket)                     5
10      /Redirect/dff674c_0_1        7 err
11      (socket)                     5
12      (socket)                     5
13      (socket)                     5
14      /pipe/eiptmo                 2
15      (socket)                     5
16      (socket)                     5
17      (socket)                     5
18      (socket)                     5
19      (socket)                     5

```

```

|----- mBuf sys pool -----|
type      number
-----
FREE      :    18
DATA      :     2
TOTAL     :    20
number of mbufs: 20
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0

```

CLUSTER POOL TABLE

Size	clusters	free	usage	minsize	maxsize	empty
20	250	217	88	8	20	0
44	200	193	19	24	40	0
96	100	88	23	48	84	0
172	150	138	32	116	160	0
292	100	91	37	176	216	0
664	200	176	70	384	556	0
1144	30	30	0	1144	1144	0



```

|----- mBuf data pool -----|
type          number
-----
FREE          : 653
DATA          : 2
TOTAL         : 655
number of mbufs: 655
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0

```

CLUSTER POOL TABLE

Size	clusters	free	usage	minsize	maxsize	empty
64	100	100	45	4	56	0
128	400	398	32096	128	128	0
256	40	40	11699	141	227	0
512	40	40	0	0	0	0
1024	25	25	1	773	773	0
2048	50	50	3	1297	3359	0

|----- Routing Table -----|

Routing tables

Internet:

Destination	Gateway	Flags	Refs	Use	Netif	Tos	Proto
default	192.168.207.253	UGc	4	4	sh0	0	OTHER
127.0.0.1	127.0.0.1	UH	0	0	lo0	0	LOCAL
192.168.207	link#2	UC	2	0	sh0	0	LOCAL
192.168.207.206	0:20:b5:26:64:de	UHLW	1	6	sh0	0	LOCAL
192.168.207.253	0:4:23:a9:42:73	UHLW	4	0	sh0	0	LOCAL

|----- Socket State -----|

Active Internet connections (including servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	(state)
tcp4	0	0	192.168.207.208.80	192.168.203.29.51257	ESTABLISHED
tcp4	0	0	192.168.207.208.80	192.168.203.29.51254	TIME_WAIT
tcp4	0	26	192.168.207.208.20547	192.168.203.28.54043	ESTABLISHED
tcp4	0	0	192.168.207.208.44818	192.168.207.206.1042	ESTABLISHED
tcp4	0	0	*.4040	*.*	LISTEN
tcp4	0	0	*.20547	*.*	LISTEN
tcp4	0	0	*.44818	*.*	LISTEN
tcp4	0	0	*.21	*.*	LISTEN
tcp4	0	0	*.80	*.*	LISTEN

Active Internet connections (including servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	(state)
udp4	0	0	*.2222	*.*	
udp4	0	0	*.44818	*.*	
udp4	0	0	*.68	*.*	

Active Internet connections (including servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	(state)
ip 4	0	0	*.*	127.0.0.1.*	