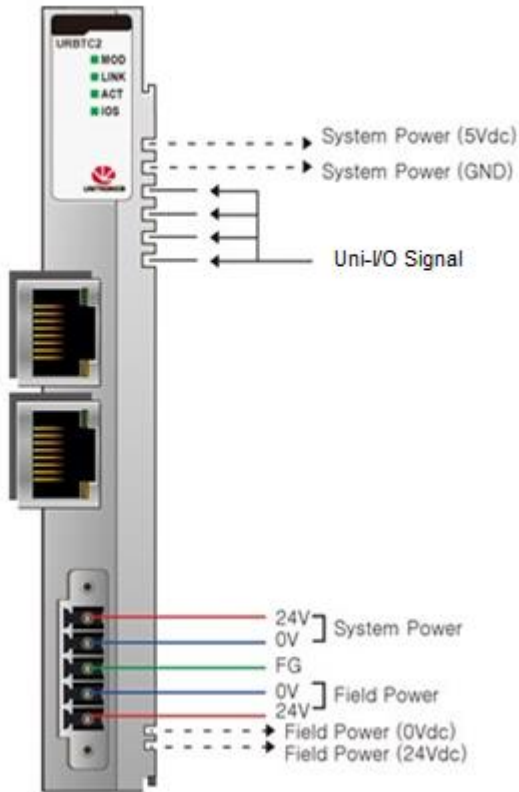


# URB-TCP2 (URBTC2) – UniStream Remote IO Ethernet Adapter, 6 modules

## Specifications

Items	Specification
Adapter Type	Slave node (MODBUS/TCP,MODBUS/UDP Server)
Protocol	MODBUS/TCP,MODBUS/UDP,HTTP,DHCP,10 TCP Connections
Sub-Protocol	*Ethernet/IP
Max. Expantsion Module	6 slots
Max. Input / Output Data Size	Max. Input 256 bytes / Output 256 bytes
Max Length Bus Line	Up to 100m from Ethernet Hub/Switch with twisted CAT5 UTP/STP
Max. Nodes	Limited by Ethernet Specification.
Baud Rate	10/100Mbps, Auto-negotiation, Full duplex
Interface Connector	RJ-45 socket * 2pcs
IP-Address Setup	Via DHCP/BOOTP or IOGuide(Crevis Software)
IP-Address Range	xxx.xxx.xxx.1 ~ 253 (User area) xxx.xxx.xxx.254 ~ 255 (Reserved for IAP Function)
IAP Mode	When DIP Switch 1 to 8 setting is 254 or 255 (Using only Internet Explorer / recommended version 11)
Indicator	4 LEDs 1 Green/Red, Module Status (MOD) 1 Green, Physical Connection (LINK) 1 Green, Exchange Data/Traffic Present (ACTIVE) 1 Green/Red, Expansion I/O Module Status (IOS) 2 LEDs (each RJ45 Connector) 1 Yellow, Link/Active 1 Green, Not used
Module Location	Starter module left side of URB system
System Power	Supply voltage : 24Vdc nominal Supply voltage range : 15~28.8Vdc Reverse polarity protection
Power Dissipation	75mA typical @ 24Vdc
Current for I/O Module	1.0A @ 5Vdc
Isolation	System power to internal logic : Non-isolation System power I/O driver : Isolation
Field Power	Supply voltage : 24Vdc typical (Max. 32Vdc) * Field Power Range is different depending on IO Module series. Refer to IO Module`s Specification.
Max. Current Field Power Contact	DC 8A Max
Weight	76g
Module size	22mm x 109mm x 70mm

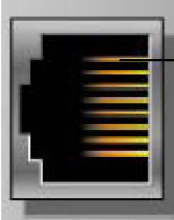
## Wiring Diagram



Pin No.	Signal Description
1	System Power, 24V
2	System Power, Ground
3	F.G
4	Field Power, Ground
5	Field Power, 24V

### RJ45 Socket

RJ-45	Signal Name	Description
1	TD+	Transmit +
2	TD-	Transmit -
3	RD+	Receive +
4	-	
5	-	
6	RD-	Receive -
7	-	
8	-	
Case	Shield	


#1

## IP Address Setup using BOOTP Server

The URB adapter IP defaults are:

Default IP: 192.168.100.100

Subnet mask: 255.255.255.0

**Note** that on the adapter, there is a sticker showing its MAC address.

### Editing the IP defaults

There are two methods of changing the IP address:

- Via UniLogic's BOOTP Server  
This is a utility accessible via the UniLogic ribbon
- Via DIP switch  
These are physical switches on the adapter

### Selecting the IP Configuration Method

To enable the selected method, you must raise the appropriate DIP switch on the adapter. By factory default, the adapter is supplied with all switches down.


- Raise #9 to set IP via BOOTP Server:
  - Enables the adapter BOOTP/DHCP.
  - After power up, the adapter will send up to 20 consecutive BOOTP/DHCP request messages, one for every 2 seconds.
  - In case that the BOOTP/DHCP server does not respond, the Adapter applies the latest saved IP address.
- Raise #10 to set IP via DIP switch:  
You can then set the IP according to the description in the next table.

### URB Adapter DIP Switches

#	Role	Description																				
1	IP bit#0	Lowest IP Address octet when Switch #10=ON (raised) Example: XXX.XXX.XXX.IP [XXX.XXX.XXX represents the last configured network address] Example for full bitmap: XXX.XXX.XXX.100																				
2	IP bit#1																					
3	IP bit#2																					
4	IP bit#3																					
5	IP bit#4	<table border="1"> <thead> <tr> <th>Bit0</th> <th>Bit1</th> <th>Bit2</th> <th>Bit3</th> <th>Bit4</th> <th>Bit5</th> <th>Bit6</th> <th>Bit7</th> <th>DHCP</th> <th>USE IP</th> </tr> </thead> <tbody> <tr> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>ON</td> </tr> </tbody> </table>	Bit0	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	Bit7	DHCP	USE IP	OFF	OFF	ON	OFF	OFF	ON	ON	OFF	OFF	ON
Bit0	Bit1		Bit2	Bit3	Bit4	Bit5	Bit6	Bit7	DHCP	USE IP												
OFF	OFF	ON	OFF	OFF	ON	ON	OFF	OFF	ON													
6	IP bit#5																					
7	IP bit#6																					
8	IP bit#7																					
9	DHCP / BOOTP	Enable DHCP / BOOTP																				
10	Use DIP IP Value	Enable IP Address set by DIP Switches																				

DIP # 9:  
Enable IP via  
BOOTP

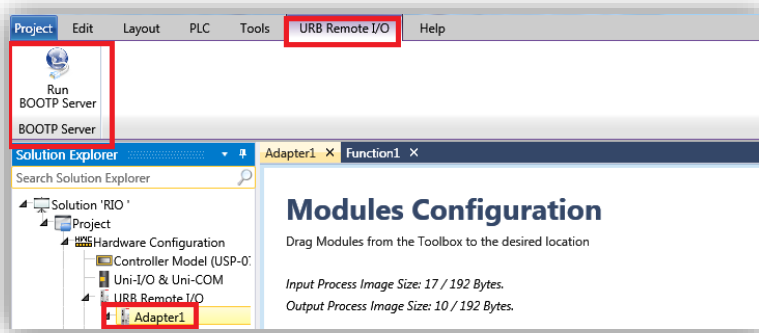
DIP # 10:  
Enable IP via  
DIP switches



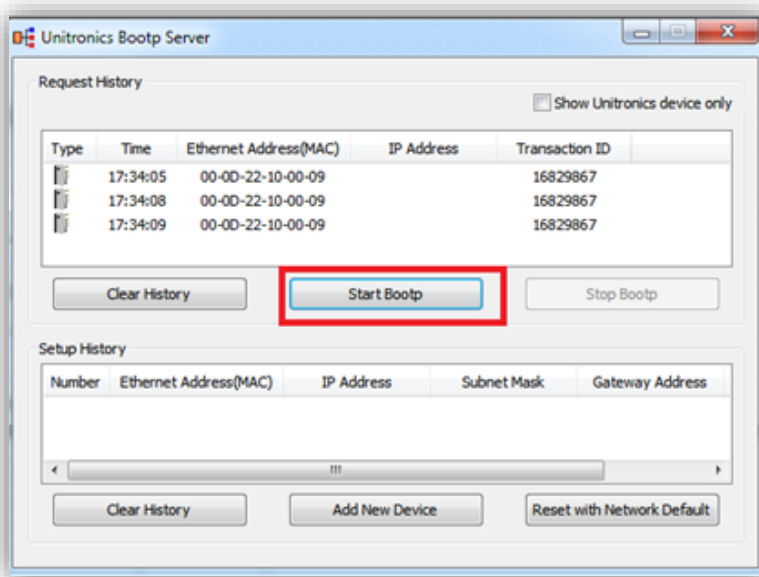
## Configuring IP using Unitronics BOOTP Server

Before you can set the IP address of the Remote IO adaptor via Unitronics BOOTP Server, you must raise DIP #9 (check that #10 is down)

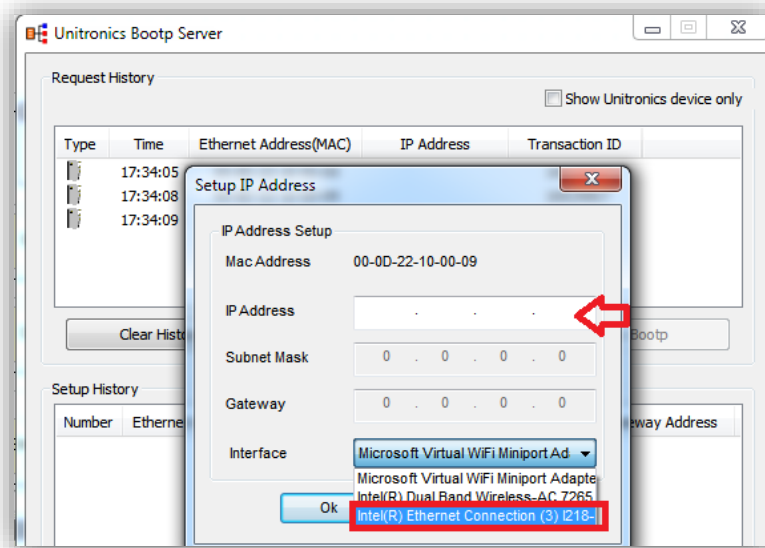
14. Power OFF the URB adapter.
15. Raise DIP switch #9 to enable DHCP / BOOTP.
16. In UniLogic, in the Solution Explorer, select the adapter; the ribbon will open the tab URB Remote I/O.
17. On the ribbon, click on Run BOOTP Server to open the utility.



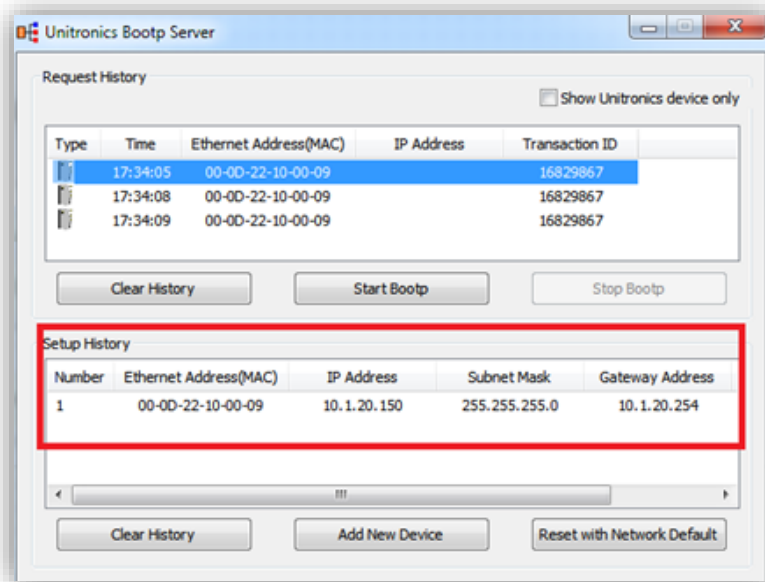
18. Click Start BootP in the **Unitronics** BOOTP Server; the upper section displays Ethernet devices that are in the network.



19. Power ON the URB adapter.
20. Locate the adapter's MAC address and double-click on the row.
21. Enter the required IP address and select your PC Network card.

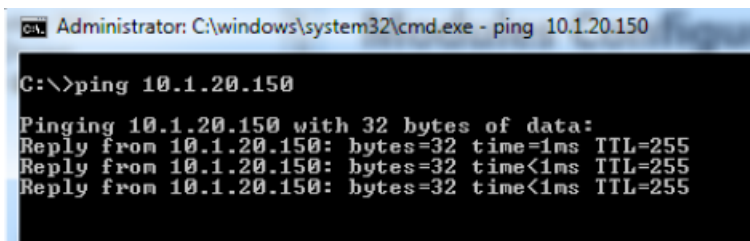


22. Click Ok. Now you should see the device in the bottom window including the IP address.



23. Power cycle the adapter; turn it off and on.

24. Use Ping from command line to check that the IP address is replying.



25. If the adapter replies successfully, then power off the adapter (URB-TCP) and lower DIP switch #9 (set to OFF).

26. Configure the adapter and IO modules in UniLogic and test.

## LED Indicators

LED No.	LED Function / Description	LED Color
MOD	Module Status	Green/Red
LINK	Physical Connection	Green
ACTIVE	Exchange Data/Traffic Present	Green
IOS	Extension Module Status	Green/Red

### MOD (Module Status LED)

Status	LED	Indication
Not Powered	OFF	Not power is supplied to the unit.
Device Operational	Green	The unit is operating in normal condition.
Device in Standby	Flashing Green	The device needs commissioning due to configuration missing, incomplete or incorrect.
Protocol Error	Green/Red Toggle	Protocol error such as watchdog error, etc.
Minor Fault	Flashing Red	Recoverable Fault. - EEPROM checksum fault.
Unrecoverable Fault	Red	The device has an unrecoverable fault. - Memory error or CPU watchdog error.

### LINK (Physical Connection LED)

Status	LED	Indication
Not Powered or Not Linked	OFF	Device may not be powered
Adapter physical connected	Green	Adapter Ethernet Controller physically connected

### ACTIVE (Exchange Data/Traffic Present LED)

Status	LED	Indication
Not Powered	OFF	Device is idle or may not be powered.
Adapter exchange data	Flashing Green	Adapter(slave) exchange data/Traffic present. About 10msec flashing.

### IOS LED (Extension Module Status LED)

Status	LED	Indication
Not Powered	OFF	Device may not be powered.
No Expansion Module	Flashing Red	Adapter has no expansion module
Internal Bus Connection, Run Exchanging I/O	Green	Exchanging I/O data.
Expansion Configuration Failed	Red	One or more expansion module occurred in fault state. - Detected invalid expansion module ID. - Overflowed Input/Output Size - Too many expansion module - Initialization failure - Communication failure. - Changed expansion module configuration. - Mismatch vendor code between adapter and expansion module.