

6500106 Connect IP Motor Controller



Inputs on Motor Controller.

- 1. Contact Close Input.
 - a. Contact Close Input for local control
 - b. Requires 2 x Momentary contacts duration minimum 50 milliseconds
 - c. Dedicated contact for Up & Down
 - d. Stop command is close opposite travel contact or both Up & Down together
 - e. UP contact sends device to top position
 - f. DOWN contact sends to show position (Intermediate)
- 2. DC Trigger Input.
 - a. Down command is sent when a DC Voltage of 3 Volts @ 1mA minimum is applied to input
 - b. Up command is sent when a DC Voltage of less than 1.0 Volts DC @ 1mA is applied to input, a Down command is sent
 - c. Maximum cable length 75 meters approximately based 24 AWG gauge cable



- 3. Infra-Red Input.
 - a. Supplied with 2 channel IR transmitter
 - b. Supplied with IR receiver with 300mm and 1.2M input lead
- 4. RJ45 LAN Input.
 - a. DHCP or Static IP addressable
 - b. Internal Web Browser
 - c. TCP/IP controllable
 - d. DHCP as standard
- 5. 240 Volt Input.
 - a. Three pin plug with lead
- 6. 240 Volt output to motor.
 - a. 4 Metre cable supplied

IP Operation of motor controller.

- 7. PC Connect Software.
 - a. As the motor controller is DHCP default, this software will allow simple operation and identification of DHCP IP address allowing for operation and programming
 - b. Downloadable from <u>www.screentechnics.com.au</u> in FAQ tab
 - c. Connect motor controller to network
 - d. Run PC Connect software -
 - e. Software looks for Connect IP products on the network
 - f. Screen shot below showing that software has found IP connect motor controller showing allocated IP Address

ID Type Version Status ponnection 1: 192.168.0.34 Disconnected Connect Browse	ID Type Version Status onnection 1: 192.168.0.34 Disconnected onnection 2: Module Not Found.									
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g. Connect to module using "connect button"



- h. Screenshot below shows GUI screen
 - i. Connect projection screen or lifter can be operated from this GUI

				MacConnect
ID 1	Type 61	Version Sta 40 Ma	atus anual STOP	Up Down Stop Calibrate Rattle
Connection 1	192.168	.0.34 STCONNE	CTAC03D3 Rea	idy Disconnect Browse
Connection 2	Module N	Not Found		Connect Browse
Address	Port	Function	Direction	String Hide Log
192.168.0.34	3001	Get Module Id	s Receive	165, 1, 255, 255, 255, 255, 255, 255, 255,
192.168.0.34	3001	Get Module Ty	ypes Send	66 3781
192.168.0.34	3001	Get Module Ty	ypes Receive	166, 61, 255, 255, 255, 255, 255, 255, 255, 25
192.168.0.34	3001	Get Module Ve	ersions Send	68 3781
192.168.0.34	3001	Get Module Ve	ersions Receive	168, 40, 255, 255, 255, 255, 255, 255, 255, 25
192.168.0.34	3001	Get Module St	tatus Send	67 3781
192.168.0.34	3001	Get Module St	tatus Receive	167, 10, 255, 255, 255, 255, 255, 255, 255, 25

- ii. Status shows current position
- i. GUI shows IP address, port number and command structure for operation commands
- j. UP command is IP address, port number 30 1
- k. Software updates string after all comma

ID Type Version Status 1 61 40 At TOP Up Down Stop Calibrate Rattle Connection 1: 192.168.0.34 STCONNECTAC03D3 Ready Disconnect Browse Connection 2: Module Not Found Modules String 192.168.0.34 3001 Get Module Status Receive 167, 6, 255, 255, 255, 255, 255, 255, 255,					MacCo	nnect							
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192.168.0.34 3001 Up Send 301 Save 192.168.0.34 3001 Up Receive 130, 1, 1 Save 192.168.0.34 3001 Status Change Receive 9999 Save Save 192.168.0.34 3001 Get Module Status Send 67 3781 Save Save	192.168.0.34	3001	Get Module	e Status Recei	ve 167,	6, 255,	255, 255	255,	255,	255,	255,	255	
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- 8. Simple web browser operation.
 - a. Selecting browse button on GUI opens simple control web browser page
 - b. Can be viewed in web browser via IP address



- c. Device can be operated from this page
- 9. Full operation and programming of Connect IP motor controller
 - a. Select LOGIN from Screen Technics Control Page



- b. Connect Login screen will be shown
- c. Input User Name: Admin Password : Connect
- d. Direct Control page is displayed
 - i. Module can be operated from this page
 - ii. Status indication of screen use refresh to obtain latest status update
 - iii. MAF address and Module ID shown (Always
 - iv. Partial 1 & 2 operate as stop unless programmed



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	<u> </u>							
Login	Con	trol	System	1		Setup	Diagnostics	Contact
MAF Address	Module ID	Up Partial	1 Partial 2	Down S	top	Status		

10. IP Address Settings

- a. Select IP SET UP from setup drop down menu
- b. Shows default and current IP address
- c. Enable DHCP on/off (Default is Yes)
- d. Shows Default IP address & Current IP address (DHCP)
- e. Change "enable DHCP to NO for static IP

System

- f. Mac address set up (If replacing on network)
- g. Reboot required after IP address or MAC address change

Setup

Diagnostics



Control

SCREEN	
TECHNICS	

Contact

IP Setup

Login

Enable DHCP	Yes \$ STCONNECTAC03D3						
Module Name							
IP Address	192	. 168	.1	. 253			
Subnet Mask	255	.255	. 255	.0			
Gateway IP Address	192	. 168	.1	.1			

Update

Current Operating IP Parameters

DHCP	On				
Module Name	STCONNECTAC03D3				
IP Address	192	. 168	. 0	.34	
Subnet Mask	255	.255	. 255	.0	
Gateway IP Address	192	. 168	. 0	.254	

MAC Address Setup

MAC Address (Hex) 00:1e :c0:ac :03:d3 Permanent MAC Address "00":"1e":"c0":"ac":"03":"d3"

Update

Changes to the IP setup and to the MAC address will only take effect from the next reboot. You will need to refresh this page after the reboot.

Reboot



11.Connect Network Info.

- a. Select system on top menu
- b. Select Connect Network Info in drop down menu
- c. Window shows
 - i. Software version
 - ii. Module type
 - iii. MAF Address & Module ID

					TECHNI
ogin	Control	System	Setup	Diagnostics	Contact
Connect	t Network Inf	0			
Connect	t Network Inf	0 de Type Status	Version		

18

12. Register settings.

- a. Select system on top menu
- b. Select module settings on drop down menu
- c. Select Module ID or MAF address and load
- d. This menu will enable changes of features within the module
- e. 127 registers in total
- f. Screen shot below showing register page

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con	nect	(F)			
	Control	Sustam	Satur	Diagnostica	Contact
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Module Set	tings				
Module ID		1 -	Load		
MAF Address		1 💌	Load		
Register	Value		Upda	ate	
1	42		Upo	late	
2	100		Upo	late	
3	9999		Upo	late	
4	9999		Upo	late	
5	421		Upo	late	
6	0		Upd	late	
7	0		Upd	late	
8	65343		Upd	late	
9	0		Upd	late	
10	32383		Upd	late	
11	0		Upd	late	
12	32766		Upd	late	
13	31		Upd	late	
14	0		Upd	late	
15	0		Upd	late	
16	0		Upd	late	
17	0		Upp	late	

Update



- g. Commonly used registers
 - i. Register 75 sets IR group operation
 - ii. Register 78 sets Module ID number

13. Infra-Red Group Bitmap calculator.

- a. Add the value of IR groups
- b. If you wish the module to operate on Group 1 only change register 75 to a value of 2
- c. If you wish the module to operate on Group 1 & 2 only change register 75 to a value of 6

Infra-Red Group Bitmap Register 75

Calculate the register number by using following table: -

Transfer the Value for each required group to the right column.

The Total of the values in the right column then becomes the Register Value

E.g., to set groups 1, 2 then the Total value is 6.

<u> </u>	
GROUP	VALUE
1	2
2	4

14. Contact Close Switch Groups.

a. Default setting is 2

15.IP Connect Serial Protocol.

- a. This serial command protocol is essentially the same for all console channels
 - (a) TELNET via TCP/IP (2 ports)
 - (b) HTTP via port 80

Format

The stream is made up of messages. A message consists of 1 to 80 printable ascii characters followed by and end of message. An end of message is one or more of CR and LF optionally combined with any number of delimiters.

A message is made up of unsigned numerical value fields in decimal format separated by one or more delimiters. A delimiter is any single or combination of space, comma or tab.



Examples of valid messages to the IP Connect module are given below. All these messages have the same meaning.

A message is not a valid message if It contains more than 80 characters before an end of message character is received. It contains a character that is not <CR>,<LF>,<TAB>,<SPACE>,0,1,2,3,4,5,6,7,8,9,",". A numerical field exceeds 65535 It contains more than 10 fields

If a packet is determined to be not a valid message it is ignored. If a message is determined to be invalid before the end of message is ignored, then all characters received are ignored until an end of message character is received.

Messages from the IP Connect module comply with the requirements of the incoming messages but in addition are fixed width formatted. Each numerical field is made of 5 characters (leading spaces and digits). A comma delimiter is included. An Example is shown below.

1, 3, 45<CR><LF>

16. Control Commands.

- a. These commands are used to control the operation of screens.
- b. Unified address is MAF address plus 16 e.g. Module 1 is Unified address 17



Operate Module Direct

COMMAND	Value	Description
30	Unified Address or Module ID	Operate Module UP to top position
31	Unified Address	Operate Module moves to Bottom
	or Module ID	(Service Position)
33	"Unified Address or Module ID	Operate Module moves to Intermediate (Show Position)
36	Unified Address or Module ID	Operate Module STOP

c. Example of direct command
 Connected to 192.168.0.32:3001 – command 30 1 using module ID would see the screen move to up position
 Connected to 192.168.0.32:3001 – command 30 17 using MAF address would see the screen move to up position

IR Group Commands

- d. Each module will require programming via register 75, as per point 15 in document
- e. Example of direct command Connected to 192.168.0.32:3001 – command 20 1, would see the lifter programmed to operate or IR group 1 move to up position

Command	IR Group	Description
20	IR Group 1 or 2	Operate IR Group UP
23	IR Group 1 or 2	Operate IR Group DOWN
26	IR Group 1 or 2	Operate IR Group STOP

Operate IR Group



Switch Group Commands

- a. Each module will require programming via register 74, as per point 11 in document
- Example of direct command
 Connected to 192.168.0.32:3001 command 020 1 would see all screens programmed to operate on Switch group 1 move to up position
- c. Command followed by value 0 operates all modules connected via Connect Network including the Connect IP module

Command	Switch Group	Description			
10	SWITCH Group 1 or 2	Operate Switch Group UP			
13	SWITCH Group 1 or 2	Operate Switch Group DOWN			

Operate Switch Group

17. Module Status Feedback

A module status buffer (20 record FIFO) is updated as a automatically generated Send Register Commands with register number = 0x20 are sent from each module.

The module status buffer contains the Module ID (1 byte), and Module Status (2 bytes)

Command	
50	

Response from module e.g., 150, 6, 1, 0 – value 6 indicates screen at top

Command	Value 1	Value 2	Value 3
150	Status	Module ID	Module Status Register (0x20)

Note – Status=1 is returned if valid data and no further records in the status buffer Status=2 is returned if valid data and there are still records in status buffer Status=3 is returned if valid data, but the buffer is full (e.g. may have lost data) Status=6 is returned if there are no new records

This buffer is updated when screens are moved. It is also updated automatically every 60 seconds. It needs to be polled regularly to clear the stored data otherwise it will get full, and records will be lost. Even though screens may not be moving the data is being updated even though the status is the same



Response Type	Connect IP Motor	Paspapa Tupa Na	Connect IP Motor
No	Controller	Response Type No	Controller
0	Moving top	9	At PP2
1	Moving bot	10	Stopped manual
2	Moving PP1	11	Error
3	Moving PP2	12	Spare
4	Moving PPT	13	Fail-timeout
5	Moving PPB	14	Fail – current
6	At TOP	15	Rattle
7	At BOTTOM	16	At PPT
8	At PP1	17	At PPB

18. Factory Reset Switch

- a. Single long press for about five seconds
 - i. Factory Default Mode selected.
 - ii. LED double flashes.
 - iii. Pressing button again exits mode.
 - iv. Power cycle off / on for 10 seconds or receiving an IR command exits this mode.
- b. Puts module into Static IP Mode
 - i. Default IP address is 192.168.1.253
 - ii. Module can be accessed via web browser
- c. Single short press for about three seconds
 - Screen Rattle command.
 - Three seconds down, one second up.
 - LED single flashes while in this function.
 - Pressing button again stops screen.
 - Function is exited when screen operation finished, or another screen operate command is acted on.
- d. Double short press for about two seconds per button press
 - Lifter Up command. Screen travels to Up limit. LED single flashes while in this function. Pressing button again stops lifter. Function is exited when lifter travels to Up position or another operate command is sent.
- e. Triple short press for about two seconds per button press
 - Lifter Down command. Screen travels to down limit.
 - LED single flashes while in this function.
 - Pressing button again stops screen.
 - Function also exited when screen operation finished or another screen operate command is acted on.



19. AMX Device Discovery

- a. This feature allows the IP motor controller to be identified by AMX AV Control Systems. When polled the IP CONNECT module responds with a Beacon message which contains device specific information. (E.g., Make, Model, Version)
 With this information the AMX system can then configure itself with the correct protocol to be able to control the IP Connect Module.
- b. The protocol works for any of the Serial ports, and over TCP/IP.
- c. The AMX "Device Discovery White Paper.Doc" defines the The Dynamic Device Discovery Protocol the connection methods and data interactions required to dynamically connect a third party device to a NetLinx Master via either serial or IP connectivity.
- d. AMX Discovery is enabled using Register 80 or via internal web browser

Should you have any questions regarding the installation of our products please call our sales desk on +61 2 4869 2100 for assistance

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