OCHIPKIN

Hunter Industries ACC2 Irrigation Controller Startup FS-8705-41

Chipkin - Enabling Integration

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1 Setup Devices IP Address

Method 1 – Adjust reality to match the config

- 1. Set ACC to 192.168.1.18 Node=3 Port 10001
- 2. Set Laptop to 192.168.1.201 (See notes labelled "Windows 10 Change IP Address for demo" at the end of this doc.)
- 3. Connect gateway, ACC and laptop to router
- 4. Browse to gateway by typing IP address into chrome address bar : 192.168.1.168
- 5. View, connection overview, we expect stats for msgs Rx and Tx on the Hunter connection. If these do not count up call for help (See step 5 of method 2)
- 6. Browse to demo by typing IP address into chrome address bar : 192.168.1.168/acc2.html

Method 2 – Adjust the config to match reality

- Note the following from the 2 line display on the Hunter ACC Controller ACC-Com-LAN Address : Example – 3 Lan IP : Example 192.168.1.168 Lan Port : Example 1001 If you wish to change these follow the procedures provided by Hunter Industries.
- Upload the configuration from the Gateway Procedure provided in 'Simplified Support for Gateways - Chipkin 2019 October.pdf"
- 3. Edit the configuration. It is better to use notepad than Excel.

Connections Adapter , protocol , Hunter_SystemID , Hunter_FCB , Poll_Delay , Timeout ,Hunter_Import	Check, change as required.	
N1 , HunterACC , 130 , 169 , 0.05s , 2.2s ,10001		
Nodes		
Node_Name , IP_Address		
ACC99 , 192.168.1.18 , 3 , 0 , HunterACC , N1 ,0.1s ,0.1s		

4. Download the edited configuration file to the gateway, restart the gateway to give effect to the changes.

Procedure provided in 'Simplified Support for Gateways - Chipkin 2019 October.pdf"

5. Browse to the Gateway

View the connections – You should see messages counting up on the Hunter connection.

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							FieldPo
Navigation	Con	nections					
 FSE9228 Rev903 - DNP3 Eth About Sotum 	Ov	erview					
View	Connect	ions					
Connections	Index	Name	Tx Msg	Rx M	sg Tx Cha	r Rx Char	Errors
• N1 - HunterACC	0	N1 - HunterACC	451	450	8,924	98,410	0
• N1 - CAS TOOLN1	1	N1 - CAS_TOOLN1	78	0	0	0	0
 N1 - Modbus/TCP 	2	N1 - Modbus/TCP	0	0	0	0	0
 N1 - Dnp3_Ethernet 	3	N1 - Dnp3_Ethernet	0	U	0	U	0
Nodes Man Descriptors							
 Nodes Map Descriptors User Messages 						Che mess	eck that sages are
 Nodes Map Descriptors User Messages 						Che mess being e	eck that sages are exchanged.

Points List

"FS-8705-41 Hunter Industries ACC2 Irrigation Controller - Data Objects.xlsx"

Google it to find it.

2 Testing Using WEB demo

Browse to the page acc2.html on the gateway. If you get a 404 error then email support@chipkin.com . They will provide you with the Hunter Web Demo files.

192.168.1.169/acc2.html



Simple Commands
FIELD CONTROLLER SYSTEM GLOBALS (01 02)
SET STACKING MODE AND LIMITS (03 04)
REPORT VERSIONS (0a)
FLOW OPERATION PARAMETERS (0c 0d)
REPORT ITEM INFORMATION (0e)
DECODER MODULE STATION ASSIGNMENTS (10 15)
ITEM NAMES (12 32)
SET STATION PARAMETERS (13 33)
MAINSAFE PARAMETERS (17 18)
FLOW ZONE PARAMETERS (19 1a)
FLOW SENSOR PARAMETERS (1b 3b)
PROGRAM HEADER DATA (1e 3e)
TODO - SET FIELD CONTROLLER PROGRAM EVENT RUN TIME DATA (1f)
SET RAIN DELAY VALUES (20 21)
SEASONAL ADJUST VALUES (23 25)

2.1 Installing the demo

Make a folder called temp on your C Drive

Copy the zip file to c:\temp

Unzip the files in C:\temp

Start a DOS Window (Hold windows key and push the R key, Type CMD and click OK)

Change folder by typing : cd\temp<Enter>

If 1.2.3.4 is the IP Address of the gateway then type

ACC2_sendtogateway 1.2.3.4 <Enter>

No restart is required. Should work immediately.

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3 Testing Using BACnet

Download CAS BACnet Explorer from this page: https://store.chipkin.com/products/tools/cas-bacnet-explorer

Activate - Insert the Green key in your laptop (there is another better way to install permanently on your laptop)

CHANGE SETTINGS - select your network card, turn on BACnet IP

About	Network						
Preferences Network MSTP Settings License Auto Update	Networks	EB Ethernet MSTP etwork device address 1.168.198.1 1.168.136.1	BACnet IP BACnet IP Port * BACnet MSTP MAL unique on the MSTP Name 'VMware Virtual Ethern 'Realtek PCIe GbE Fam 'VMware Virtual Ethern	47808 Caddress must be network. et Adapter' on local h ily Controller' on local h et Adapter' on local h	BACnet MSTP Comm port Baud rate MAC Address * host host	COM5 38400 0 (0x00)	v v

CHANGE SETTING – The object list index is too big to fit in one packet

Settings		×
About Prefe	Prences	
Preferences Network MSTP Settings License Auto Update Det Det	Check this option optio	
Ena PY V V V V V V V	Abled FYI Messages I Message I FYI #001 - No Networks are enabled. 2 FYI #002 - Reading the object list from this device with object index m 3 FYI #003 - Object index method is disabled. 4 FYI #004 - A newer version of this utility is available. 5 FYI #005 - Error in connecting to Chipkin.com 6 FYI #006 - No Devices found 7 FYI #007 - Local area network	
	0	Cancel Apply

Do discovery – check devices box

Discover			Х				
Discover							
Discover will search the network looking for new devices/object/properties. Depending on the size of your network you may want to filter the results by un-checking some of the options below.							
Discover devices							
Network: 65535 🗹 All							
Low device instance:	0						
High device instance:	High device instance: 4194303						
Discover device's propert	ies						
Discover objects							
Discover object's propert	ies						
If your device is not discoverable by WhoIs command you can manually add the device							
Manua	ally add Device/Objec	:t					
	Send Cancel						

You should get this.

🖃 Network: 0 - Local area network
FYI #007 - Local area network
evice: 389001 (vHunterACC)
Last undated: Tuo Son 17 17:36:20 2010

Once the device has been discovered, select it by clicking on the device 389001, and right click to select DISCOVER again. This time check all the boxes to discover objects on the device.

Discover			×			
Discover						
Discover will search the network loo the size of your network you may w options below.	king for new devices/ ant to filter the result	object/properties. Depending or s by un-checking some of the	ı			
Discover devices						
Network:	65535	All				
Low device instance:	0					
High device instance:	4194303					
Discover device's proper	ties					
Discover objects						
Discover object's proper	ties					
If your device is not discoverable by WhoIs command you can manually add the device						
Manu	ally add Device/Obje	ct .				
		Send Cancel				

Wait wait wait ... takes a FEW MINUTES

You get this tree. Explore the tree or print a report.

CAS BACnet Explorer	-	٥	×
File Advanced Diagnostics Help			
O Chinkin			
G [•]) Chipkin			
Automation Systems			
i provuestr i privetvoris 0 - Local area network			<u>^</u>
- FY1 ±007 - Local area network			
device: 339001 (\HunterACC)			
Last updated: Tue Sep 17 17:26:39 2019			
- W PADCESS: 132.1.105.1.1.1/0.7/030 			
object_type: device (0x8)			
vendor_jdentifier: Sierra Monitor Corp. (0x25)			
FYI #011-Read object properties from profile.			
a adol_immedit.10000			
- Amware resident V0.96			
max_apou_length_accepted: 1458			
mode_name: FS-QS-1220			
- number_of_apdu_retries: 3			
-001etc/jame: vhutterAuch			
- protocity and a state paper and whether a state and			
-segmentation_supported: no_segmentation (0x3)			
system_status: non_operational (0x4)			
vendor_name: Sierra Monitor Corporation			
- protocol greekion: 16 drahana greekion: 24			
binary, subput: 0 (SetGBI-Trapper Write)			
🕀-analog_output: 0 (SetGibl-Hours)			
B- analog_output: 1 (SetGibt-Minutes)			
() = Analog_output: 2 (betally-seconds)			
manage (autor to the state working) (B)-handro nutritist (AscHA)-Davi			
⊕ analog_output: 5 (Set0bl-Year)			
B-analog_output: 6 (SetGibl-SysDChour)			
B-analog_output: 7 (Set0BH-FpQChour)			
()-analog_output: ()etaileoptoms)			
manage (autor a cash) Bi-hang output (Settolinaw/Epo)			
B-analog_output: 11 (SetGbl Response)			
⊕-analog_output: 12 (SetGbl-ResponseInterval)			
⊕-analog_output: 13 (bettőh-Gibéseadd))			
#-analog_output: 14 (betain-stadiotode) 			
the major output is (setted) assignment of (setted) (sets) the set of (setted) (sets) (sets			
⊕ analog_input: 0 (ReportFidCt/Gbls Fivers)			
binary_output: 24 (Aute-Trigger Command)			
bhary_output: 25 (ResetMut-Trigger Command)			
the lone's couput: so (report versions-ingger comments) The history and nut? = (Relistations-grave-index conditions)			
⊕-analog_output: 66 (SetStationParame-StationName)			
⊕-analog_output: 78 (SetStationParams-PumpUkage)			
analog_output: 79 (SetStatonParams-CycleTime)			~
Ready	🗖 IP 🔲 E	th 🔲 M	IS/TP

4 Testing Using Modbus

Download MODBUS SCANNER test tool from this page: https://store.chipkin.com/products/tools/modbus-scanner-app

Add a task to scan the IP Address

The NODE_ID = 1

Read Holding Registers 1-100

View the data

Use the XLSX points list to see which Modbus Address contains what data

Sample screen from the Modbus Scanner. Here it is reading 30001.... These correspond to Analog Inputs. To know the meaning of 30001,2,3.... You need to revert to the XLSX file. Modbus is dumb and 'meaning' cannot be found without a manual.



5 Windows 10 - Change IP Address for demo

Windows 10 - Change IP Address of laptop



backup

notifications

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You get a dialog

Local Area Connection	Status ×
General	
Connection	
IPv4 Connectivity:	Internet
IPv6 Connectivity:	No network access
Media State:	Enabled
Duration:	6 days 22:16:25
Speed:	10.0 Mbps
Details	
ActivitySer	Click Properties
Bytes: ,9,07	5
Properties Dis	able Diagnose
	Close

Local Area Connection Properties	×
Networking Sharing	
Connect using:	
Realtek PCIe GbE Family Controller	
<u>C</u> onfigure	
This connection uses the following items:	
 Client for Microsoft Networks VMware Bridge Protocol File and Printer Sharing for Microsoft Networks 	1
QoS Packet Scheduler Question 4 (TCP/IPv4) Microsoft Network Adapter Multiplexor Protocol	
☑ 🔤 Microsoft LLDP Protocol Driver 🗸 🗸	
< >	
I <u>n</u> stall <u>U</u> ninstall P <u>r</u> operties	
Description Allows your computer to access resources on a Microsoft network.	
OK Cancel	



Internet Protocol Version 4 (TCP/IPv4) Properties	×	
General Alternate Configuration		
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.		
Dbtain an IP address automatically		
O Use the following IP address:		IP=192.168.1.201 mask=255.255.255.0
Subnet mask:		gw=192.168.1.1.
Default gateway:		, clicking ok and closing
Obtain DNS server address automatically		the various utalogs.
O Use the following DNS server addresses:		
Preferred DNS server:		
Alternate DNS server:		
Validate settings upon exit Advanced		
OK Cancel		