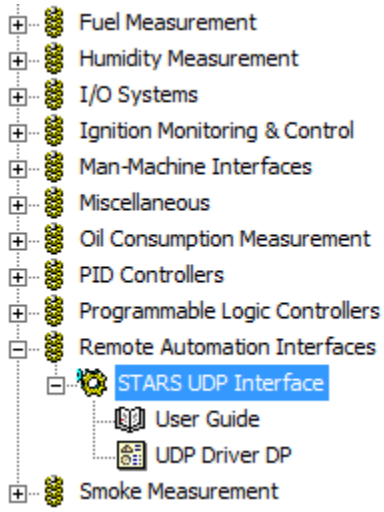
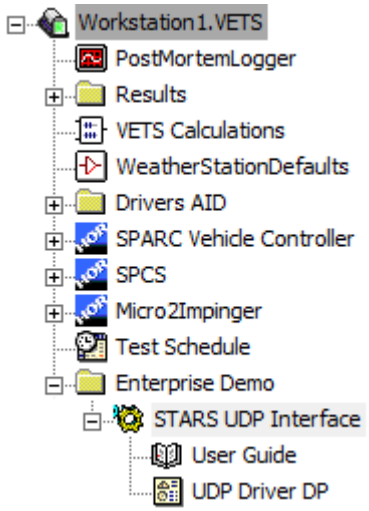
CARB Cell 1 Enterprise Demo

STARS VETS - UDP Driver Setup

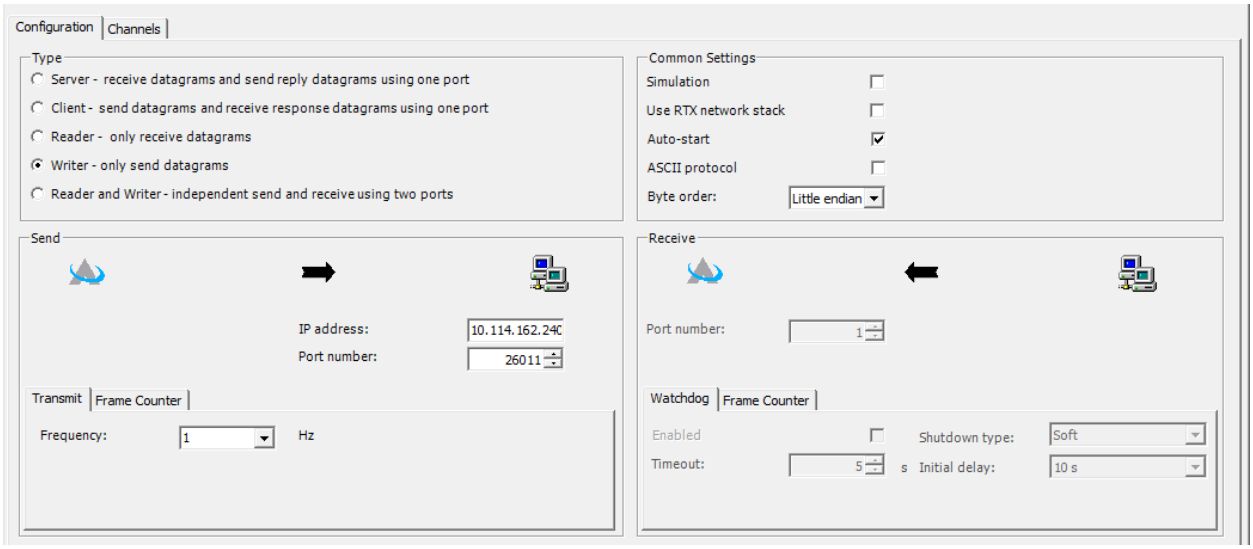
1. Expand the “Remote Automation Interfaces” node in the hardware inventory. Right click and select New -> STARS UDP Interface.

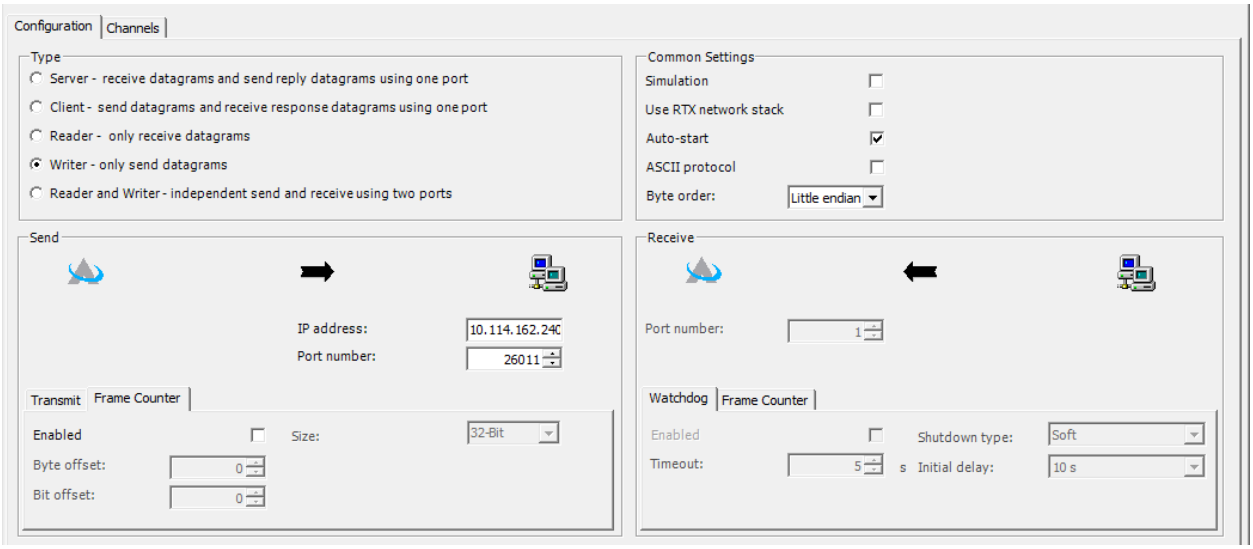


2. Copy the UDP driver from the hardware inventory and paste it into the test stand.

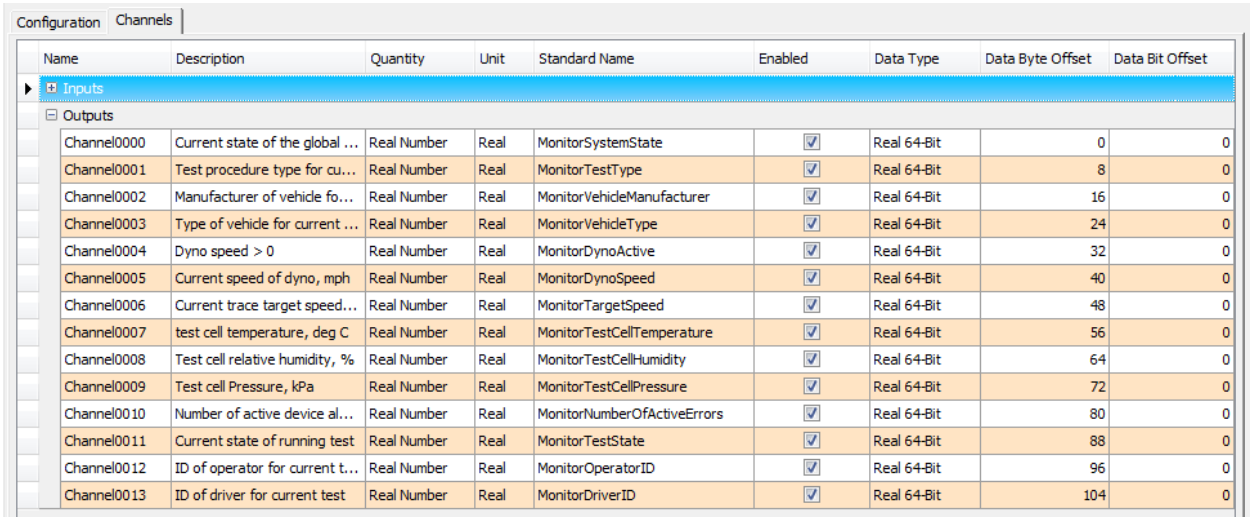


3. Check the configuration settings of the driver by right clicking and selecting edit. Put the device in Writer mode. Set the IP address such that it matches the local address of the receiving machine (which UDP packets are being sent to), and set the port number such that it matches an open UDP port on the receiving machine ('netstat –a' can be used to search for open ports via cmd on windows machines). Set the frequency to an appropriate value and enable Auto-start. Set simulation, use RTX network stack, ASCII protocol, byte order, and frame counter as desired.





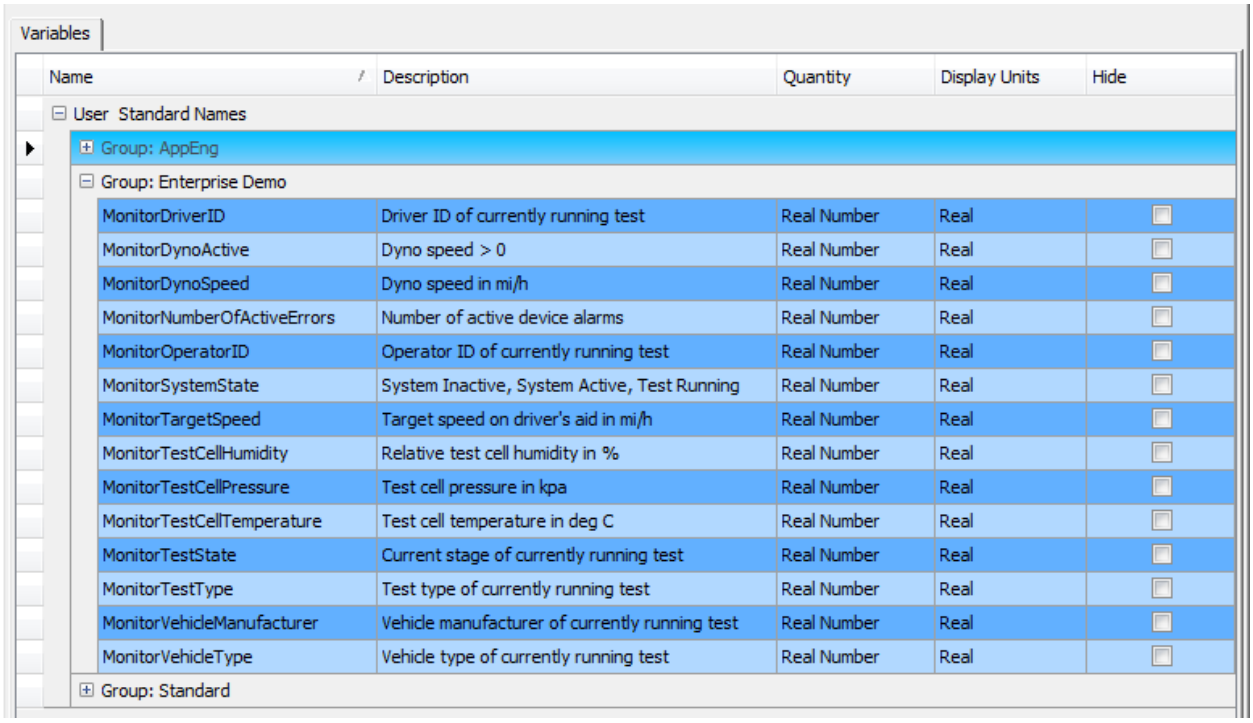
4. Select the channels tab. Add channels to the outputs section by right clicking and selecting “Add Output Channel”. Ensure that each output channel has a quantity of “Real Number”, a unit of “Real”, is enabled, has a data type of “Real 64-Bit”, a data byte offset of N*8 where N is the channel number (with iteration starting at 0), and a data bit offset of 0. An output channel can be tied to a standard name, such that the value of the standard name will be sent over that channel.



Configuration | Channels

Name	Description	Quantity	Unit	Standard Name	Enabled	Data Type	Data Byte Offset	Data Bit Offset
⊞ Inputs								
⊟ Outputs								
Channel0000	Current state of the global ...	Real Number	Real	MonitorSystemState	☑	Real 64-Bit	0	0
Channel0001	Test procedure type for cu...	Real Number	Real	MonitorTestType	☑	Real 64-Bit	8	0
Channel0002	Manufacturer of vehicle fo...	Real Number	Real	MonitorVehicleManufacturer	☑	Real 64-Bit	16	0
Channel0003	Type of vehicle for current ...	Real Number	Real	MonitorVehicleType	☑	Real 64-Bit	24	0
Channel0004	Dyno speed > 0	Real Number	Real	MonitorDynoActive	☑	Real 64-Bit	32	0
Channel0005	Current speed of dyno, mph	Real Number	Real	MonitorDynoSpeed	☑	Real 64-Bit	40	0
Channel0006	Current trace target speed...	Real Number	Real	MonitorTargetSpeed	☑	Real 64-Bit	48	0
Channel0007	test cell temperature, deg C	Real Number	Real	MonitorTestCellTemperature	☑	Real 64-Bit	56	0
Channel0008	Test cell relative humidity, %	Real Number	Real	MonitorTestCellHumidity	☑	Real 64-Bit	64	0
Channel0009	Test cell Pressure, kPa	Real Number	Real	MonitorTestCellPressure	☑	Real 64-Bit	72	0
Channel0010	Number of active device al...	Real Number	Real	MonitorNumberOfActiveErrors	☑	Real 64-Bit	80	0
Channel0011	Current state of running test	Real Number	Real	MonitorTestState	☑	Real 64-Bit	88	0
Channel0012	ID of operator for current t...	Real Number	Real	MonitorOperatorID	☑	Real 64-Bit	96	0
Channel0013	ID of driver for current test	Real Number	Real	MonitorDriverID	☑	Real 64-Bit	104	0

5. New standard names can be created for the purposes of tying to the UDP driver by selecting Tools -> Standard Names, then right clicking and selecting “New Standard Name”. Ensure that any standard name which will be tied to an output channel has a quantity of “Real Number”, display units of “Real”, and is not Hidden.



Variables

Name	Description	Quantity	Display Units	Hide
⊟ User Standard Names				
⊞ Group: AppEng				
⊟ Group: Enterprise Demo				
MonitorDriverID	Driver ID of currently running test	Real Number	Real	☐
MonitorDynoActive	Dyno speed > 0	Real Number	Real	☐
MonitorDynoSpeed	Dyno speed in mi/h	Real Number	Real	☐
MonitorNumberOfActiveErrors	Number of active device alarms	Real Number	Real	☐
MonitorOperatorID	Operator ID of currently running test	Real Number	Real	☐
MonitorSystemState	System Inactive, System Active, Test Running	Real Number	Real	☐
MonitorTargetSpeed	Target speed on driver's aid in mi/h	Real Number	Real	☐
MonitorTestCellHumidity	Relative test cell humidity in %	Real Number	Real	☐
MonitorTestCellPressure	Test cell pressure in kpa	Real Number	Real	☐
MonitorTestCellTemperature	Test cell temperature in deg C	Real Number	Real	☐
MonitorTestState	Current stage of currently running test	Real Number	Real	☐
MonitorTestType	Test type of currently running test	Real Number	Real	☐
MonitorVehicleManufacturer	Vehicle manufacturer of currently running test	Real Number	Real	☐
MonitorVehicleType	Vehicle type of currently running test	Real Number	Real	☐
⊞ Group: Standard				

6. Once connected, the UDP driver should begin sending frames. Check that frames are being sent by double clicking on the “UDP driver DP” display page.