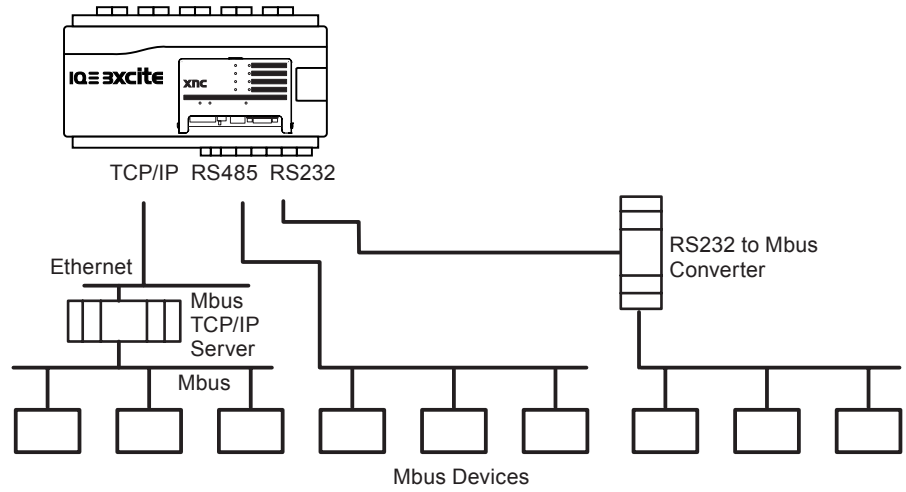


## IQ3/XNC Mbus Driver TCL Application

### IQ3/XNC Mbus Driver



### Description

The IQ3/XNC Mbus Driver is a Trend Custom Language (TCL) application that enables values from devices on Mbus to be read into the strategy of an IQ3/XNC. The driver is designed specifically for use with Mbus meters particularly energy meters and water meters.

The driver is available with two different communications options (TCP/IP, and serial) and in two different sizes (8 meters and 55 meters) making a total of four different variants. The variants are functionally the same, the only difference is the number of devices, number of outputs available and the communications method.

### Features

- Read from Mbus devices.
- TCP/IP or serial communication options.
- Available in two different sizes (8 and 55 meters) to allow for different controller, and strategy requirements.

## FUNCTIONALITY

IQ3/XNC Mbus Driver is a TCL application for Trend's IQ3/XNC that enables values from devices on Mbus to be read into the strategy of an IQ3/XNC.

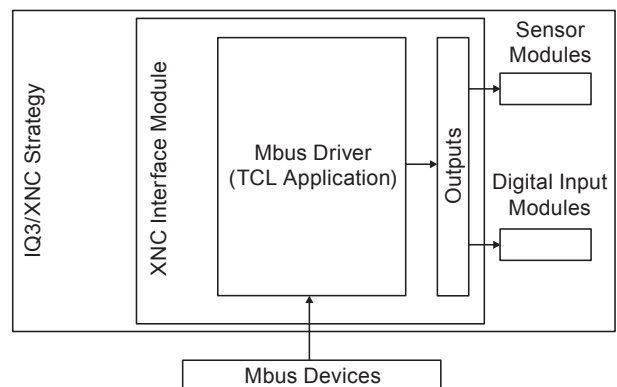
There are four variants of the driver with different numbers of devices, outputs, and different communications options. See the table below.

Communications Option	Devices	Outputs	BriQs
IP	9	120	10810
	55	450	12690
Serial	9	120	8805
	55	450	10685

Each driver variant uses a different number of BriQs, allows a different number of devices, and has a different number of outputs. Therefore when selecting which driver variant to use you should consider the number of BriQs available in the IQ3/XNC that is to be used, the method of connecting to the Mbus, number of devices that are to be communicated with, and number of outputs to the strategy.

For details of the number of BriQs available in the IQ3/XNC see the IQ3.../XNC... Controller/Interface Data Sheet (TA200219).

The driver interrogates the devices using their secondary address, reads the data map from each device and stores the values in the IQ3/XNC's TCL interface module's outputs. These objects can then be used in the IQ3/XNC's strategy.



**FUNCTIONALITY** (continued)

The driver reads all the values in the data map from each device and stores them in the outputs. The number outputs available for each device is a common for all devices but can be changed. For example it could be changed to allow more values to be read from each device. This will reduce the maximum number of devices that can be accessed.

*Note that the total number of outputs cannot exceed the limit for the driver.*

The first output for each device contains the communications status of the device, and the label of this output will contain device's secondary address and the date and time of the last good read.

**Configuration:** Once installed the driver is configured using SET. The configuration involves specifying the values to be read and the TCL interface module's outputs, using codes in the TCL interface module's stores. The TCL interface module's must also be linked the to required place in the controller's strategy, and the strategy configured as required.

The communication settings used for communications over the Mbus are specified in the TCL interface module's stores. The determine the necessary information for communications. In the case of the TCP/IP variants the also determine the server being used to connect to the Mbus. If required other servers can be specified enabling the driver to connect to more than one server.

*Note that the driver can only connect to one server at a time.*

Connection to the Mbus is made from the IQ3/XNC using either a serial connection or a TCP/IP connection.

For a TCP/IP connection an Mbus server is required. The TCP/IP version of the driver enable more than one server to be used by changing from one server to another. However a delay of 100 seconds is necessary to switch from one server to another

For serial connections if the meter requires a real Mbus connection then a serial to Mbus converter is required. If the meter only requires a serial connection (connects using a serial connection but communicates with Mbus protocol) a converter is not needed. It is only necessary to connect a single meter in this way other meters on the bus communicate with the IQ3/XNC through the meter that is connected. A maximum of 32 meters can be connected in this way and there is maximum distance of 1000 m between the IQ3/XNC and the last meter.

**COMPATIBILITY****Mbus**

The driver can connect to the Mbus using either a serial or TCP/IP connection.

It supports the following VIF objects:

Value type	VIF Objects
Energy	VIFs 0 to 15
Mass	VIFs 16 to 23
Volume	VIFs 24 to 31
Power	VIFs 40 to 55
Output	VIF of 56 to 64
Flow temperature °C	VIF of 88 to 91
Return temperature °C	VIF of 92 to 95
TEMP difference EN °C	VIF of 96 to 99
Heat Cost Allocator (HCA)	VIF of 100

*Note that the driver does not currently manage stored or historic values, manufacturer values, minimum or maximum values or registration rates or dates. Only the values indicated in the VIF(s) section can be read.*

It supports the following DIF objects:

Value Type	DIF Objects
Integer value	1, 2, 3, 4, 6, 7
BCD value	9, 10, 11, 12, 14
IEEE value	5

**Trend**

The IQ3/XNC Mbus Driver is compatible with all IQ3 controllers that have the XNC functionality (IQ3/XNC), and requires SET v6.5 or greater to enable the configuration of the IQ3/XNC.

**Meters**

The IQ3/XNC Mbus Driver has been tested with the following meters:

Manufacturer	Meters
SAPPEL	PALLAS RS, CETAS 2, PALLAS, SHARKY
Actaris	TH4 Intégrale, CF50, CF51, CF100, CF800, Cyble Mbus
Sensus	PolluCom, Pollutherm, PolluStat, HRI-MEI/Bx, RSIDIA-M
ABB	ELSTER F2
Siemens	WFM21
Aquametro	Calec ST
Honeywell	Hydrometer Compact Meter Ref 450/451/452

## INSTALLATION

The IQ3/XNC Mbus Drivers are installed with SET 6.5 or greater.

Once the driver has been installed on your PC it is necessary to configure the driver. You will need: SET v6.5 or greater, the Mbus driver, an IQ3/XNC, and converter or server to interface between the IQ3/XNC and the Mbus.

The basic installation procedure is described below:

- Install the Mbus devices according to the manufacturer's instructions.
  - Install the IQ3/XNC as described in the supplied Installation Instructions.
  - Connect the IQ3/XNC to the Mbus devices.
  - Configure the driver.
  - Configure the IQ3/XNC's strategy.
  - Test the operation of the driver to ensure that the required values are read from the Mbus devices, and that the controller's strategy work correctly.
- 

## ORDER CODES

The drivers are supplied with SET v6.5

In order to use the driver an IQ3/XNC is required to run the TCL. This must be purchased separately, and you should ensure that it has a large enough BrIQ count to fit the required driver, and the strategy. See the IQ3 Web Enabled Controllers Data Sheet (TA200505) for details of the number of BrIQs available in each IQ3/ XNC variant.

If connecting to the Mbus using a serial connection a serial to Mbus converter is required. If connecting to the Mbus using a TCP/IP connection an Mbus server is required. These devices must be purchased separately.

## SPECIFICATIONS

### Communications options

Serial RS232 with 9 Way D type connector,  
RS232 with RJ11 connector, 4 wire  
RS485, 2 wire RS485

TCP/IP

### Max number of devices

Large driver 55  
Small driver 9

### Max number outputs

Large driver 450  
Small driver 120

### BrlQ sizes

Large driver 10810 on serial variant, and 12690 on  
TCP/IP variant  
Small driver 8805 on serial variant, and 10685 on  
TCP/IP variant

Please send any comments about this or any other Trend technical publication to [techpubs@trendcontrols.com](mailto:techpubs@trendcontrols.com)

© 2015 Honeywell Technologies Sàrl, ECC Division. All rights reserved. Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Z.A. La Pièce, 16, 1180 Rolle, Switzerland by its Authorized Representative, Trend Control Systems Limited.

Trend Control Systems Limited reserves the right to revise this publication from time to time and make changes to the content hereof without obligation to notify any person of such revisions or changes.

### **Trend Control Systems Limited**

Albery House, Springfield Road, Horsham, West Sussex, RH12 2PQ, UK. Tel:+44 (0)1403 211888 Fax:+44 (0)1403 241608 [www.trendcontrols.com](http://www.trendcontrols.com)

### **Trend Control Systems USA**

6670 185th Avenue NE, Redmond, Washington 98052, USA. Tel:(425) 897-3900 Fax:(425) 869-8445 [www.trendcontrols.com](http://www.trendcontrols.com)