

Demo Project of BACnet/IP

Table of Contents

1. Overview and Operation.....	3
2. Setting Up the Screen	4
3. Addresses	7

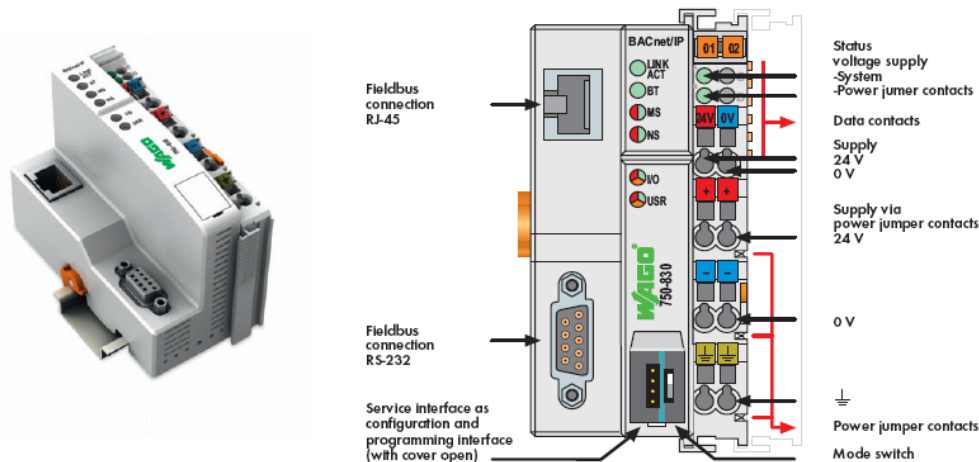
1. Overview and Operation

Overview

This demo project demonstrates how to connect HMI with WAGO 750-830 BACnet/IP devices. EasyBuilder provides driver to support BACnet/IP devices.

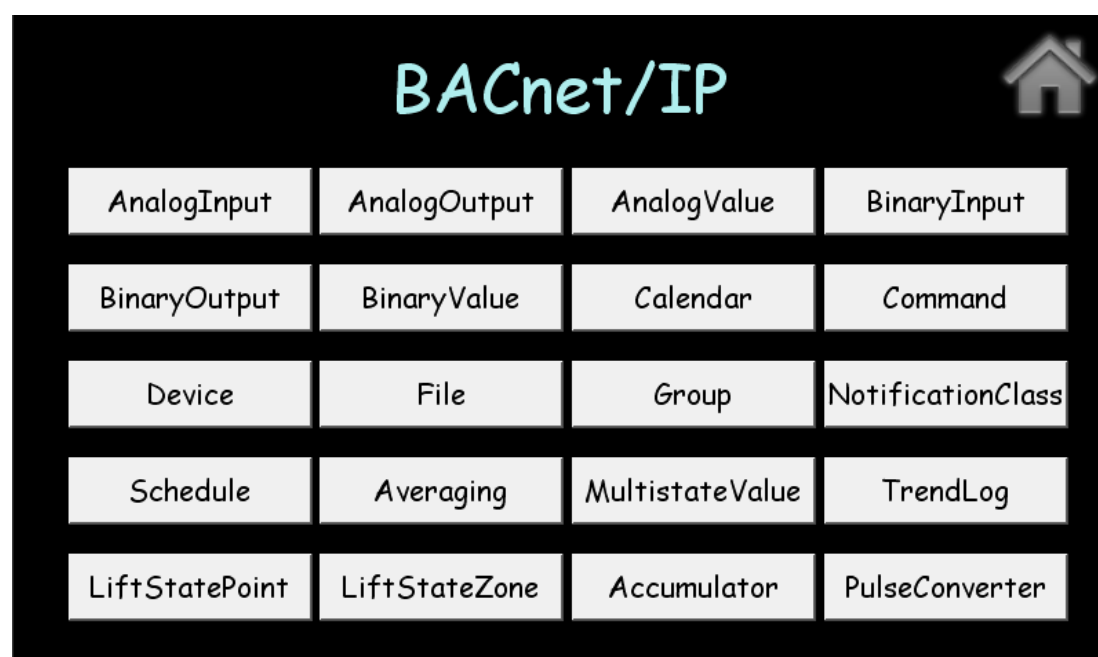
BACnet/IP Programmable Fieldbus Controller

10/100 Mbit/s; digital and analog signals



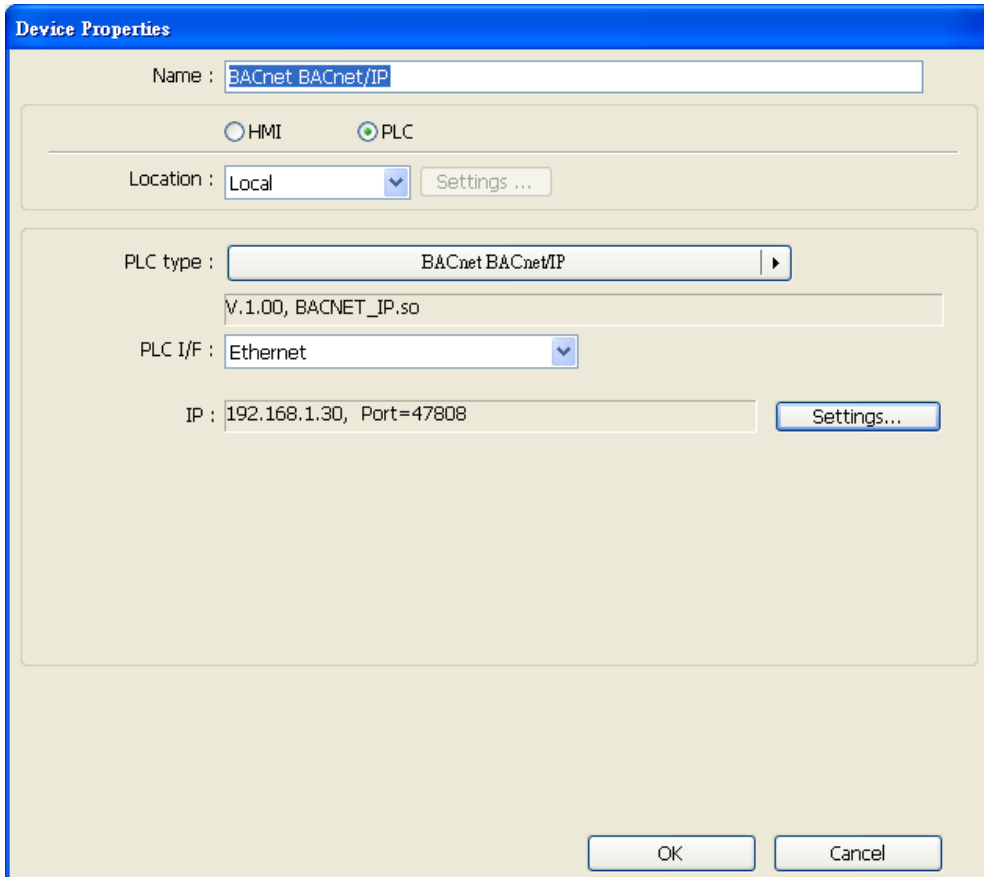
Operation

The top page contains object names. Clicking on a name will open the corresponding operation window. The windows will be switched every 10 seconds for display.



2. Setting Up the Screen

1. Add a new device BACnet/IP in System Parameter Settings. Set correct IP Address, Port No., Device ID, and HMI Port No.



Device Properties

Name : BACnet BACnet/IP

☐ HMI ☒ PLC

Location : Local Settings ...

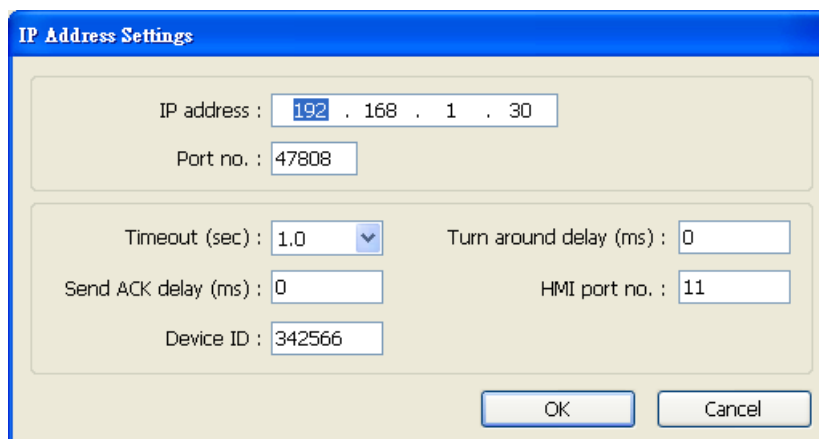
PLC type : BACnet BACnet/IP ▶

V.1.00, BACNET_IP.so

PLC I/F : Ethernet ▼

IP : 192.168.1.30, Port=47808 Settings...

OK Cancel



IP Address Settings

IP address : 192 . 168 . 1 . 30

Port no. : 47808

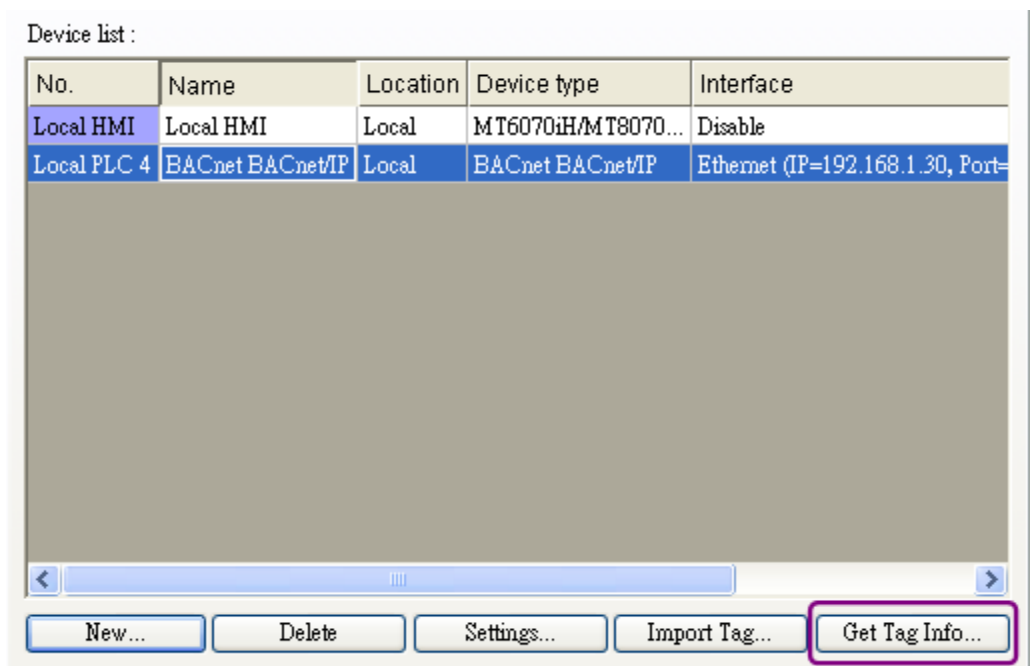
Timeout (sec) : 1.0 ▼ Turn around delay (ms) : 0

Send ACK delay (ms) : 0 HMI port no. : 11

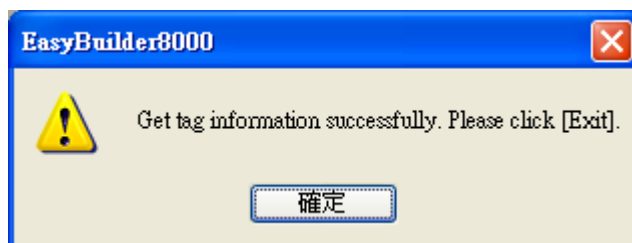
Device ID : 342566

OK Cancel

2. Click [Get Tag Info] to gain device tag address.



3. If the message below is shown, the tag is successfully imported, for detailed settings please refer to PLC Connection Guide.



4. On object property setting dialog, select the corresponding object, in the address pull-down list select a tag imported.

(0,0)AnalogInput

ObjectName(ID#77)

ObjectIdentifier(ID#75)

ObjectType(ID#79)

PresentValue(ID#85)

EventState(ID#36)

Units(ID#117)

OutOfService(ID#81)

Numeric Input Object's Properties

General Data Entry Numeric Format Security Shape Font Profile

Description:

☐ Read/Write use different addresses

Read address:

PLC name: BACnet BACnet/IP

Tag: (0,0)AnalogInput.ObjectIdentifier(ID#75) DINT

Name	Data Type	Description
(4,2)BinaryOutput	BinaryOutput	
(4,3)BinaryOutput	BinaryOutput	
(0,0)AnalogInput	AnalogInput	
ObjectName(ID#77)	SINT[32]	
ObjectIdentifier(ID#75)	DINT	
ObjectType(ID#79)	INT	
PresentValue(ID#85)	REAL	
EventState(ID#36)	INT	
Units(ID#117)	DINT	
MinPresentValue(ID#69)	REAL	
MaxPresentValue(ID#65)	REAL	
CovIncrement(ID#22)	REAL	
Resolution(ID#106)	REAL	
HighLimit(ID#45)	REAL	
LowLimit(ID#59)	REAL	
DeadBand(ID#25)	REAL	
ProfileName(ID#168)	SINT[32]	

Tag: (0,0)AnalogInput.ObjectIdentifier(ID#75)

3. Addresses

The object addresses used in this demo project are listed below, the addresses and object ID can be modified based on actual usage.

Object	Address	Object ID	Description
Window 4			
Function Key	Window 31	FK_0	Go to main page.
Window 10			
ASCII Display	(0,0)(ID#77)	AD_0	AnalogInput Object
Numeric Input	(0,0)(ID#75)	NE_0	AnalogInput Object
Numeric Input	(0,0)(ID#79)	NE_1	AnalogInput Object
Numeric Input	(0,0)(ID#85)	NE_2	AnalogInput Object
Numeric Input	(0,0)(ID#36)	NE_4	AnalogInput Object
Numeric Input	(0,0)(ID#117)	NE_3	AnalogInput Object
Toggle Switch	(0,0)(ID#81)	TS_0	AnalogInput Object
Window 11			
ASCII Display	(1,0)(ID#77)	AD_0	AnalogOutput Object
Numeric Input	(1,0)(ID#75)	NE_0	AnalogOutput Object
Numeric Input	(1,0)(ID#79)	NE_1	AnalogOutput Object
Numeric Input	(1,0)(ID#85)	NE_2	AnalogOutput Object
Numeric Input	(1,0)(ID#36)	NE_5	AnalogOutput Object
Numeric Input	(1,0)(ID#117)	NE_3	AnalogOutput Object
Numeric Input	(1,0)(ID#104)	NE_4	AnalogOutput Object
Toggle Switch	(1,0)(ID#81)	TS_0	AnalogOutput Object
Window 12			
ASCII Display	(2,0)(ID#77)	AD_0	AnalogValue Object
Numeric Input	(2,0)(ID#75)	NE_0	AnalogValue Object
Numeric Input	(2,0)(ID#79)	NE_1	AnalogValue Object
Numeric Input	(2,0)(ID#85)	NE_2	AnalogValue Object
Numeric Input	(2,0)(ID#36)	NE_5	AnalogValue Object
Numeric Input	(2,0)(ID#117)	NE_3	AnalogValue Object
Numeric Input	(2,0)(ID#104)	NE_4	AnalogValue Object
Toggle Switch	(2,0)(ID#81)	TS_0	AnalogValue Object

Object	Address	Object ID	Description
Window 13			
ASCII Display	(3,2)(ID#77)	AD_0	BinaryInput Object
Numeric Input	(3,2)(ID#75)	NE_0	BinaryInput Object
Numeric Input	(3,2)(ID#79)	NE_1	BinaryInput Object
Numeric Input	(3,2)(ID#36)	NE_8	BinaryInput Object
Toggle Switch	(3,2)(ID#85)	TS_0	BinaryInput Object
Toggle Switch	(3,2)(ID#81)	TS_1	BinaryInput Object
Toggle Switch	(3,2)(ID#84)	TS_2	BinaryInput Object
Window 14			
ASCII Display	(4,4)(ID#77)	AD_0	BinaryOutput Object
Numeric Input	(4,4)(ID#75)	NE_0	BinaryOutput Object
Numeric Input	(4,4)(ID#79)	NE_1	BinaryOutput Object
Numeric Input	(4,4)(ID#36)	NE_4	BinaryOutput Object
Toggle Switch	(4,4)(ID#85)	TS_0	BinaryOutput Object
Toggle Switch	(4,4)(ID#81)	TS_1	BinaryOutput Object
Toggle Switch	(4,4)(ID#84)	TS_2	BinaryOutput Object
Window 15			
ASCII Display	(5,0)(ID#77)	AD_0	BinaryValue Object
Numeric Input	(5,0)(ID#75)	NE_0	BinaryValue Object
Numeric Input	(5,0)(ID#79)	NE_1	BinaryValue Object
Numeric Input	(5,0)(ID#36)	NE_4	BinaryValue Object
Toggle Switch	(5,0)(ID#85)	TS_0	BinaryValue Object
Toggle Switch	(5,0)(ID#81)	TS_1	BinaryValue Object
Window 16			
ASCII Display	(6,1)(ID#77)	AD_0	Calendar Object
Numeric Input	(6,1)(ID#75)	NE_0	Calendar Object
Numeric Input	(6,1)(ID#79)	NE_1	Calendar Object
Toggle Switch	(6,1)(ID#85)	TS_0	Calendar Object

Object	Address	Object ID	Description
Window 17			
ASCII Display	(7,0)(ID#77)	AD_0	Command Object
Numeric Input	(7,0)(ID#75)	NE_0	Command Object
Numeric Input	(7,0)(ID#79)	NE_1	Command Object
Numeric Input	(7,0)(ID#85)	NE_10	Command Object
Toggle Switch	(7,0)(ID#47)	TS_0	Command Object
Toggle Switch	(7,0)(ID#9)	TS_1	Command Object
Window 18			
ASCII Input	(8,342566)(ID#77)	AE_0	Device Object
Numeric Input	(8,342566)(ID#75)	NE_0	Device Object
Numeric Input	(8,342566)(ID#79)	NE_1	Device Object
Numeric Input	(8,342566)(ID#112)	NE_2	Device Object
Numeric Input	(8,342566)(ID#120)	NE_3	Device Object
ASCII Input	(8,342566)(ID#70)	AE_1	Device Object
ASCII Input	(8,342566)(ID#44)	AE_2	Device Object
ASCII Input	(8,342566)(ID#12)	AE_3	Device Object
Window 19			
Numeric Input	(8,342566)(ID#98)	NE_0	Device Object
Numeric Input	(8,342566)(ID#139)	NE_1	Device Object
Numeric Input	(8,342566)(ID#62)	NE_2	Device Object
Numeric Input	(8,342566)(ID#107)	NE_3	Device Object
Numeric Input	(8,342566)(ID#11)	NE_4	Device Object
Numeric Input	(8,342566)(ID#73)	NE_5	Device Object
Numeric Input	(8,342566)(ID#155)	NE_6	Device Object
Numeric Input	(8,342566)(ID#167)	NE_7	Device Object
Numeric Input	(8,342566)(ID#10)	NE_8	Device Object
Numeric Input	(8,342566)(ID#153)	NE_9	Device Object
Toggle Switch	(8,342566)(ID#85)	TS_0	Device Object

Object	Address	Object ID	Description
Window 20			
ASCII Display	(10,1000)(ID#77)	AD_0	File Object
Numeric Input	(10,1000)(ID#75)	NE_0	File Object
Numeric Input	(10,1000)(ID#79)	NE_1	File Object
Numeric Input	(10,1000)(ID#42)	NE_2	File Object
ASCII Display	(10,1000)(ID#43)	AD_1	File Object
Toggle Switch	(10,1000)(ID#13)	TS_0	File Object
Toggle Switch	(10,1000)(ID#99)	TS_1	File Object
Window 21			
ASCII Display	(11,0)(ID#77)	AD_0	Group Object
Numeric Input	(11,0)(ID#75)	NE_0	Group Object
Numeric Input	(11,0)(ID#79)	NE_1	Group Object
Window 22			
ASCII Display	(15,0)(ID#77)	AD_0	NotificationClass Object
Numeric Input	(15,0)(ID#75)	NE_3	NotificationClass Object
Numeric Input	(15,0)(ID#79)	NE_4	NotificationClass Object
Numeric Input	(15,0)(ID#17)	NE_5	NotificationClass Object
Numeric Input	(15,0)(ID#86)[0]	NE_0	NotificationClass Object
Numeric Input	(15,0)(ID#86)[1]	NE_1	NotificationClass Object
Numeric Input	(15,0)(ID#86)[2]	NE_2	NotificationClass Object
Window 23			
ASCII Display	(17,1)(ID#77)	AD_0	Schedule Object
Numeric Input	(17,1)(ID#75)	NE_2	Schedule Object
Numeric Input	(17,1)(ID#79)	NE_3	Schedule Object
Numeric Input	(17,1)(ID#85)	NE_0	Schedule Object
Numeric Input	(17,1)(ID#88)	NE_1	Schedule Object
Numeric Input	(17,1)(ID#103)	NE_4	Schedule Object
Toggle Switch	(17,1)(ID#81)	TS_0	Schedule Object

Object	Address	Object ID	Description
Window 24			
ASCII Display	(18,0)(ID#77)	AD_0	Averaging Object
Numeric Input	(18,0)(ID#75)	NE_2	Averaging Object
Numeric Input	(18,0)(ID#79)	NE_3	Averaging Object
Numeric Input	(18,0)(ID#136)	NE_0	Averaging Object
Numeric Input	(18,0)(ID#125)	NE_1	Averaging Object
Numeric Input	(18,0)(ID#135)	NE_4	Averaging Object
Numeric Input	(18,0)(ID#124)	NE_5	Averaging Object
Numeric Input	(18,0)(ID#146)	NE_6	Averaging Object
Numeric Input	(18,0)(ID#147)	NE_7	Averaging Object
Numeric Input	(18,0)(ID#148)	NE_8	Averaging Object
Window 25			
ASCII Display	(19,0)(ID#77)	AD_0	MultistateValue Object
Numeric Input	(19,0)(ID#75)	NE_0	MultistateValue Object
Numeric Input	(19,0)(ID#79)	NE_1	MultistateValue Object
Numeric Input	(19,0)(ID#85)	NE_2	MultistateValue Object
Numeric Input	(19,0)(ID#36)	NE_5	MultistateValue Object
Numeric Input	(19,0)(ID#74)	NE_4	MultistateValue Object
Toggle Switch	(19,0)(ID#81)	TS_0	MultistateValue Object
Window 26			
ASCII Display	(20,0)(ID#77)	AD_0	TrendLog Object
Numeric Input	(20,0)(ID#75)	NE_0	TrendLog Object
Numeric Input	(20,0)(ID#79)	NE_1	TrendLog Object
Numeric Input	(20,0)(ID#126)	NE_2	TrendLog Object
Numeric Input	(20,0)(ID#141)	NE_3	TrendLog Object
Numeric Input	(20,0)(ID#145)	NE_4	TrendLog Object
Toggle Switch	(20,0)(ID#133)	TS_0	TrendLog Object
Toggle Switch	(20,0)(ID#144)	TS_1	TrendLog Object

Object	Address	Object ID	Description
Window 27			
ASCII Display	(21,0)(ID#77)	AD_0	LiftStatePoint Object
Numeric Input	(21,0)(ID#75)	NE_0	LiftStatePoint Object
Numeric Input	(21,0)(ID#79)	NE_1	LiftStatePoint Object
Numeric Input	(21,0)(ID#85)	NE_2	LiftStatePoint Object
Numeric Input	(21,0)(ID#164)	NE_3	LiftStatePoint Object
Numeric Input	(21,0)(ID#36)	NE_7	LiftStatePoint Object
Numeric Input	(21,0)(ID#103)	NE_4	LiftStatePoint Object
Numeric Input	(21,0)(ID#160)	NE_5	LiftStatePoint Object
Numeric Input	(21,0)(ID#163)	NE_6	LiftStatePoint Object
Toggle Switch	(21,0)(ID#81)	TS_0	LiftStatePoint Object
Window 28			
ASCII Display	(22,0)(ID#77)	AD_0	LiftStateZone Object
Numeric Input	(22,0)(ID#75)	NE_0	LiftStateZone Object
Numeric Input	(22,0)(ID#79)	NE_1	LiftStateZone Object
Numeric Input	(22,0)(ID#85)	NE_2	LiftStateZone Object
Numeric Input	(22,0)(ID#164)	NE_3	LiftStateZone Object
Numeric Input	(22,0)(ID#36)	NE_7	LiftStateZone Object
Numeric Input	(22,0)(ID#103)	NE_4	LiftStateZone Object
Numeric Input	(22,0)(ID#160)	NE_5	LiftStateZone Object
Numeric Input	(22,0)(ID#163)	NE_6	LiftStateZone Object
Toggle Switch	(22,0)(ID#81)	TS_0	LiftStateZone Object
Window 29			
ASCII Display	(21,0)(ID#77)	AD_0	Accumulator Object
Numeric Input	(21,0)(ID#75)	NE_0	Accumulator Object
Numeric Input	(21,0)(ID#79)	NE_1	Accumulator Object
Numeric Input	(21,0)(ID#85)	NE_2	Accumulator Object
Numeric Input	(21,0)(ID#36)	NE_5	Accumulator Object
Numeric Input	(21,0)(ID#187)	NE_3	Accumulator Object
Numeric Input	(21,0)(ID#117)	NE_4	Accumulator Object
Toggle Switch	(21,0)(ID#81)	TS_0	Accumulator Object

Object	Address	Object ID	Description
Window 30			
ASCII Display	(24,0)(ID#77)	AD_0	PulseConverter Object
Numeric Input	(24,0)(ID#75)	NE_0	PulseConverter Object
Numeric Input	(24,0)(ID#79)	NE_1	PulseConverter Object
Numeric Input	(24,0)(ID#85)	NE_2	PulseConverter Object
Numeric Input	(24,0)(ID#36)	NE_7	PulseConverter Object
Numeric Input	(24,0)(ID#117)	NE_3	PulseConverter Object
Numeric Input	(24,0)(ID#188)	NE_4	PulseConverter Object
Numeric Input	(24,0)(ID#176)	NE_5	PulseConverter Object
Numeric Input	(24,0)(ID#177)	NE_6	PulseConverter Object
Toggle Switch	(24,0)(ID#81)	TS_0	PulseConverter Object
Window 31			
Function Key	Window 10	FK_0	Switch to window 10
Function Key	Window 11	FK_1	Switch to window 11
Function Key	Window 12	FK_2	Switch to window 12
Function Key	Window 13	FK_3	Switch to window 13
Function Key	Window 14	FK_4	Switch to window 14
Function Key	Window 15	FK_5	Switch to window 15
Function Key	Window 16	FK_6	Switch to window 16
Function Key	Window 17	FK_7	Switch to window 17
Function Key	Window 18	FK_8	Switch to window 18
Function Key	Window 20	FK_9	Switch to window 20
Function Key	Window 21	FK_10	Switch to window 21
Function Key	Window 22	FK_11	Switch to window 22
Function Key	Window 23	FK_12	Switch to window 23
Function Key	Window 24	FK_13	Switch to window 24
Function Key	Window 25	FK_14	Switch to window 25
Function Key	Window 26	FK_15	Switch to window 26
Function Key	Window 27	FK_16	Switch to window 27
Function Key	Window 28	FK_17	Switch to window 28
Function Key	Window 29	FK_18	Switch to window 29
Function Key	Window 30	FK_19	Switch to window 30
Set Bit	LB - 999	SB_0	Trigger Macro to switch windows.
Set Bit	LB - 9020	SB_1	Hide system setting bar.