

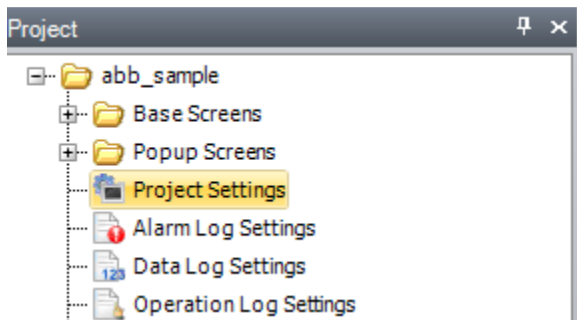
Application Notes

How to Configure the Communication Settings of IDEC HMI and ABB TotalFlow Device

Introduction:

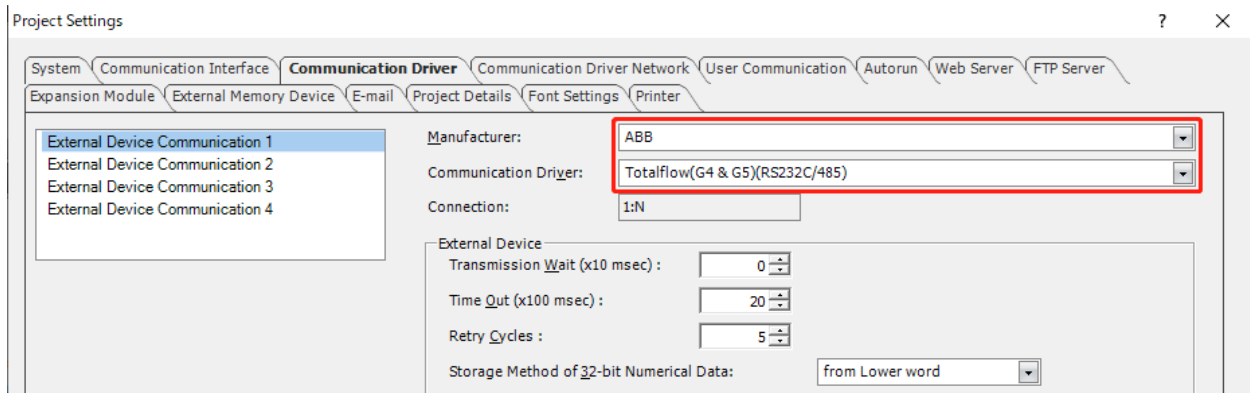
The following information will help you configure the IDEC touchscreens and the ABB TotalFlow device using the ABB TotalFlow Serial or Ethernet Driver.

In WindOI NV4, Double Click on “Project Settings”.

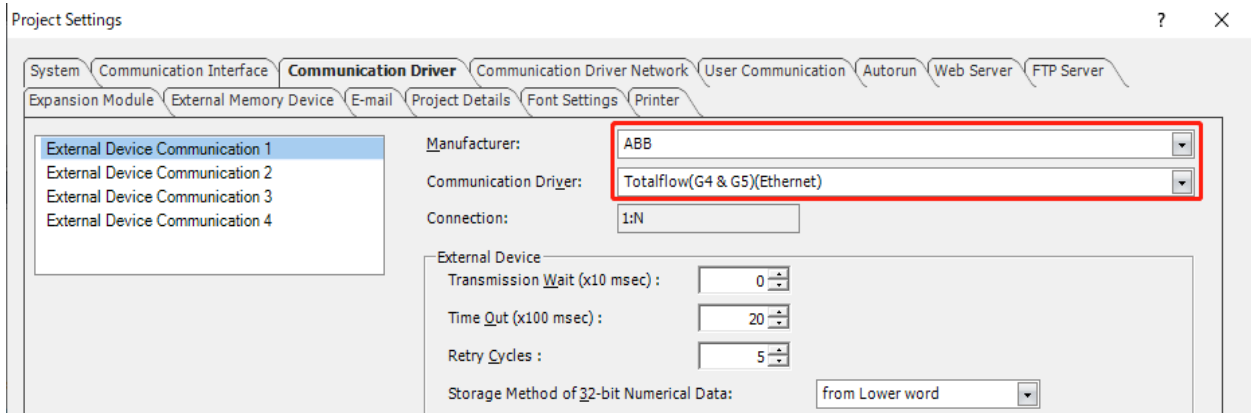


Select “Communication Driver” tab.

In Manufacturer, select “ABB. In Communication Driver, select “TotalFlow (G4 & G5)(RS232C/485)” for serial connection.

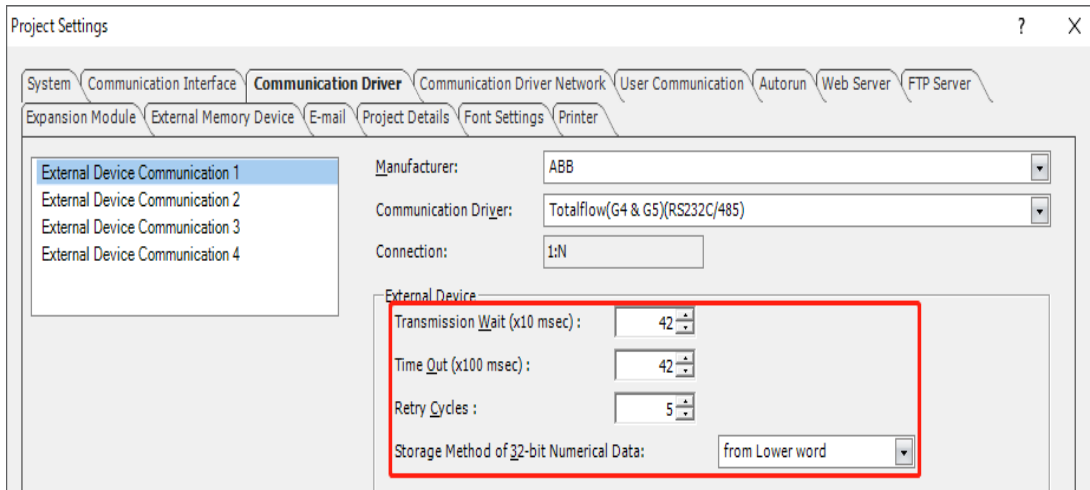


Or, select “TotalFlow (G4 & G5)(Ethernet)” for Ethernet connection.



Note, make sure to follow the External Device settings values “for serial or ethernet connection” as shown below.

- a) Set the “Transmission Wait” value larger than “Unkey delay” value in PCCU.
- b) Set the “Time Out” value larger than “Response Delay” value in PCCU.
- c) Retry Cycles and Storage Method can be set as a default.



PCCU Settings (for reference only):

Port description:	Generic Com App	Serial port settings	
Protocol:	Totalflow Remote	Baud:	9600
RBAC:	Disable	Parity:	None
Port used by:	Unknown	Data bits:	8
Listen cycle:	0	Stop bits:	1
		Interface:	RS232

Timeouts & Delays			
Ack timeout (s):	10	Xmit key delay (ms):	420
Response delay (ms):	40	Unkey delay (ms):	40
		Power up delay (ms):	80

Next, in WindOINV4 – Project Settings, go to “Communication Interface” tab. If your driver is serial communications, the Interface Settings: “Baud Rate”, “Data Bits”, “Stop Bits”, “Parity” and “Serial Interface” must be the same as PCCU settings.

The Data Bits needs to be set to 8. If 7 is set, the communication error will be occurred.

Project Settings

System **Communication Interface** Communication Driver Communication Driver Network User Communication Autorun Web Server FTP Server

Expansion Module External Memory Device E-mail Project Details Font Settings Printer

Interface Configuration:

Interface	Function
COM1	External Device Communication 1
COM2	N/A
Ethernet	-
Protocol1	N/A
Protocol2	N/A
Protocol3	N/A
Protocol4	N/A
Protocol5	N/A
Protocol6	N/A
Protocol7	N/A
USB2(USB-A)	N/A
USB1(USB-B)	Printer

Interface Settings

Function: External Device Communication 1

Baud Rate: 9600

Data Bits: 8

Stop Bits: 1

Parity: None

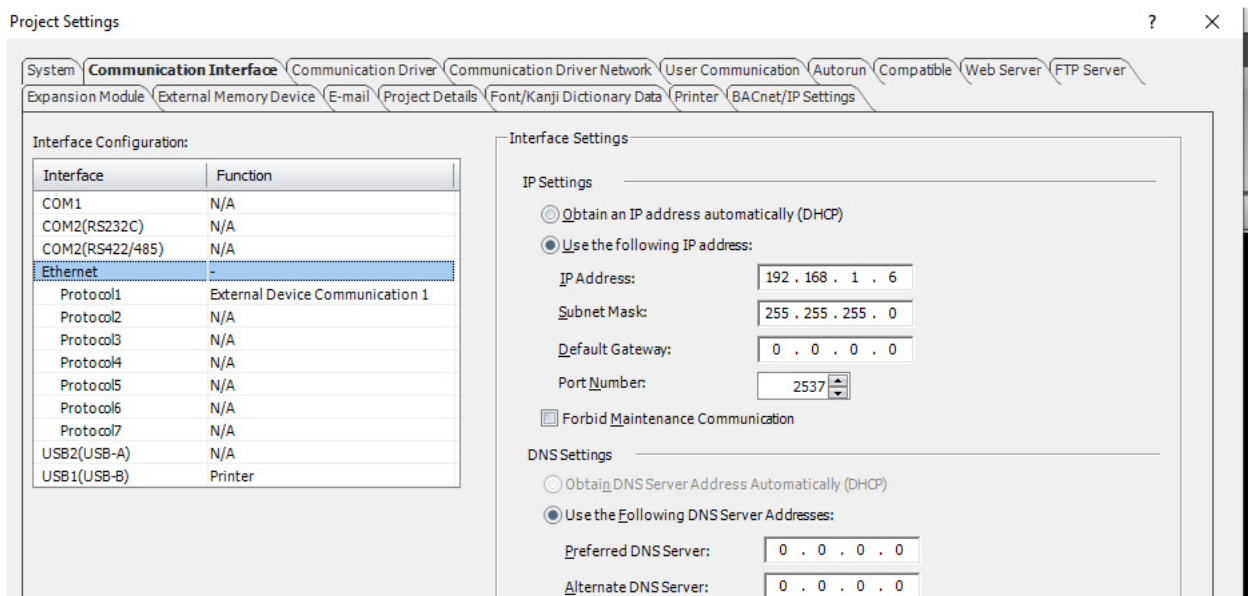
Flow Control: None

Serial Interface: RS232C

PCCU Settings (for reference only):

Port description:	Generic Com App	Serial port settings	
Protocol:	Totalflow Remote	Baud:	9600
RBAC:	Disable	Parity:	None
Port used by:	Unknown	Data bits:	8
Listen cycle:	0	Stop bits:	1
		Interface:	RS232

If your driver is ethernet connection, enter your HMI IP address, Subnet Mask in the boxes below.



Next, go to “Communication Driver Network” tab. Enter the values of the “Link Time” and “Security Code” in NV4 the same as “Listen Cycle” and “Security Code” in PCCU.

The name of the “Station ID” should be the same as the “Station ID” in PCCU.

Click “OK” to close the Project Settings dialog box.

Project Settings

System | Communication Interface | Communication Driver | **Communication Driver Network** | User Communication | Autorun | Web Server | FTP Server

Expansion Module | External Memory Device | E-mail | Project Details | Font Settings | Printer

Settings:

External Device ID	External Device Name	External Device Communication	Communication Driver	Slave Number	IP Address	Port Number
0	0	External Device Communication1	Totalflow(G4 & G5)...			
1	1	Disabled				
2	2	Disabled				
3	3	Disabled				
4	4	Disabled				
5	5	Disabled				
6	6	Disabled				
7	7	Disabled				
8	8	Disabled				
9	9	Disabled				
10	10	Disabled				
11	11	Disabled				
12	12	Disabled				
13	13	Disabled				
14	14	Disabled				
15	15	Disabled				
16	16	Disabled				

Clear

Expansion Settings:

External Device ID	Link Time	Security Code	Station ID	Configure Application Name
0	0	0000	TOTALFLOW	

PCCU Settings (for reference only):

Port description:

Protocol:

RBAC:

Port used by: Unknown

Listen cycle:

Serial port settings

Baud:

Parity:

Data bits:

Stop bits:

Interface:

Timeouts & Delays

Ack timeout (s):

Response delay (ms):

Xmit key delay (ms):

Unkey delay (ms):

Power up delay (ms):

Station Setup		
Application/License Management		
Battery Information		
Resources		
System Log		
Security Log		
Registry		
	Description	Value
0.0.4	Station ID	TOTALFLOW
0.0.5	Location	ABB Totalflow
0.9.0	Date/Time	2020/05/28 15:58:09
0.9.0	Set Device with PCCU Date/Time	No
	--- Security ---	
0.0.6	Security Code Level 1	
0.0.7	Security Code Level 2	
0.7.3	Security Switch Status	Off

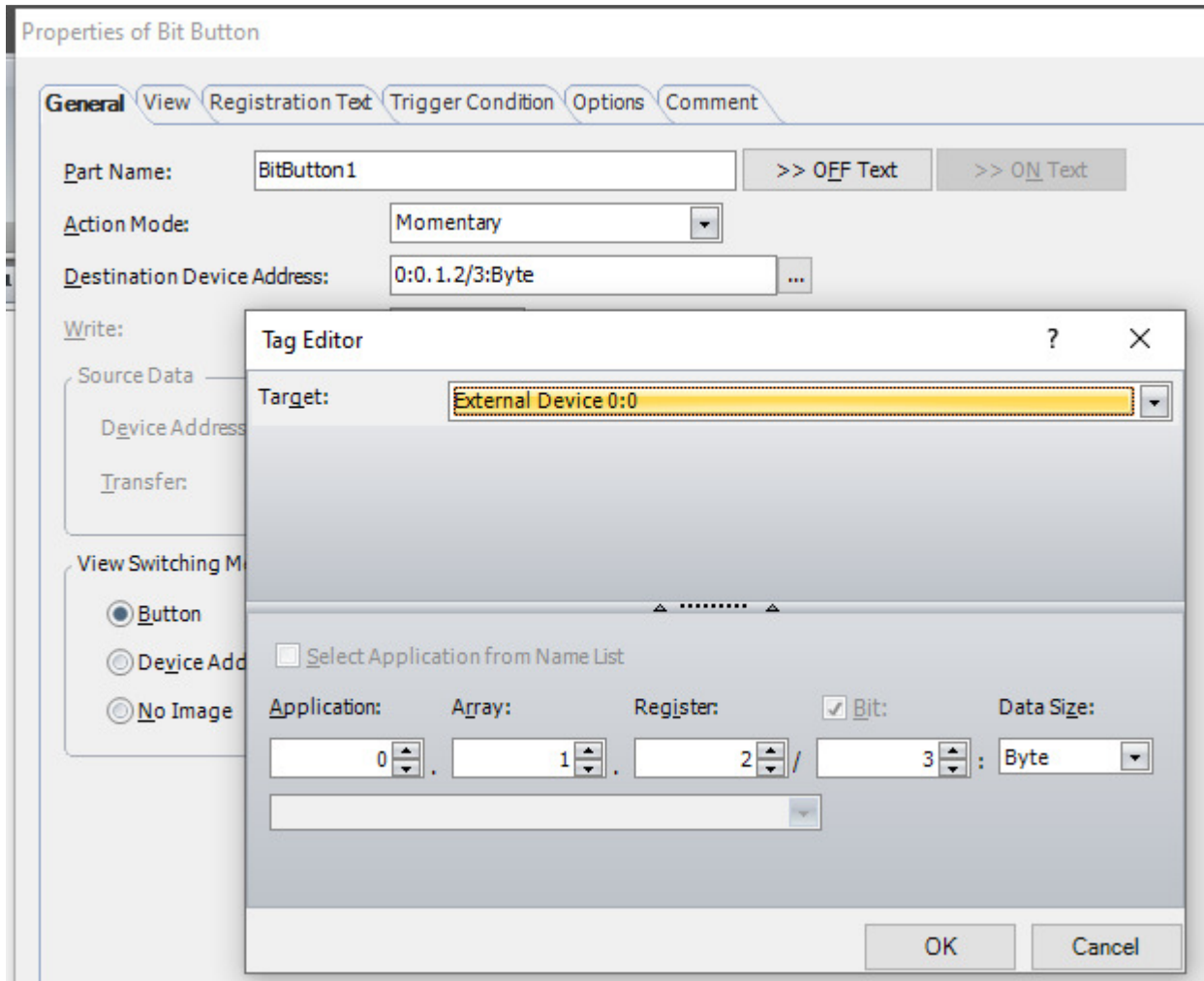
This is the end of the Communication Settings in WindOINV4 software.

2. Data Types of the ABB Registers and ABB Device Format.

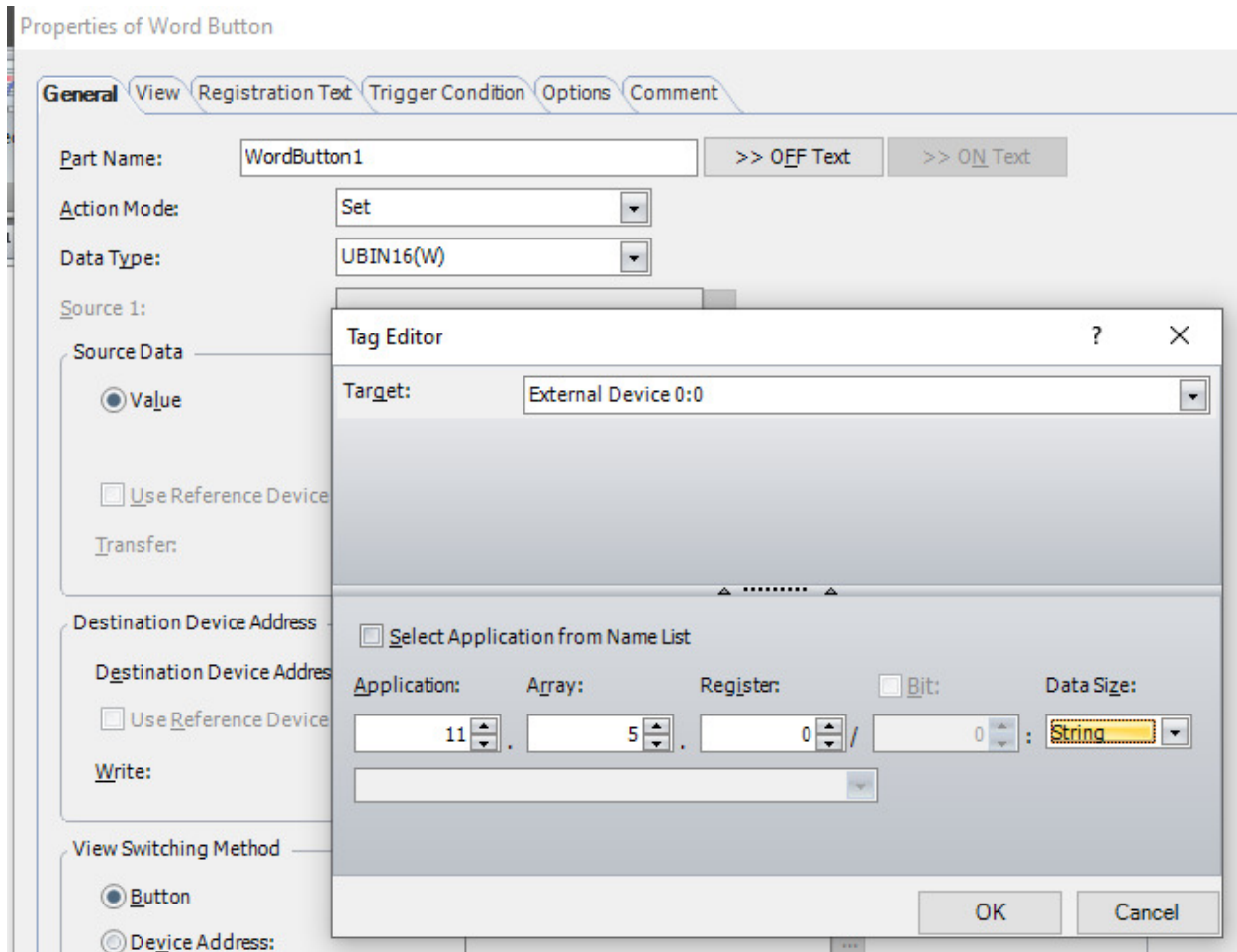
Below are the Data Types of the ABB registers that we support.

Data type in PCCU ABB software	Data Size in NV4
Bool, Byte, Char, Int8, SInt8, UChar, UInt8	Byte
Int16, UInt16	Word
Datetime, Float, Int32, Register, SInt32, UInt32	DWord
Double	Double
String65, UInt8[65]	String

- Bit Device Format: Application.Array.Register/Bit:Data Size



- Word device: Application.Array.Register:Data Size



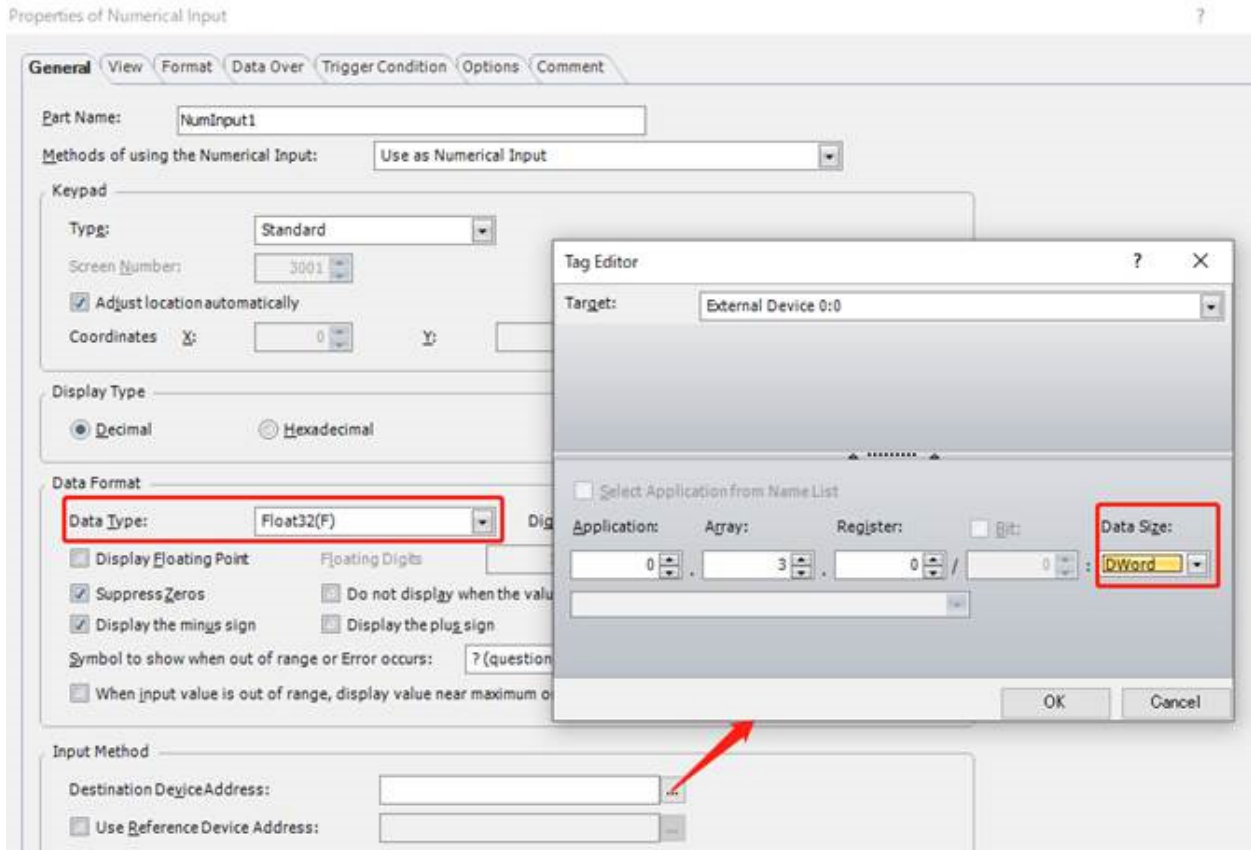
Please note that the Data Type should be set correctly between ABB and IDEC. If it is set incorrectly, the value on the HMI will not show correctly and the communication error will be displayed.

Special Note:

* Currently IDEC does not support Double data type in WindnOINV4. Therefore, if a Double data type is used in PCCU, please set this device's Data type to Float in WindO/I-NV4.

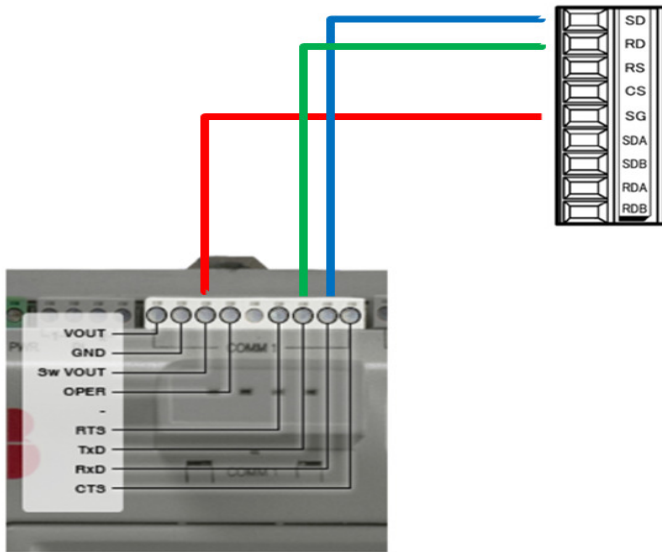
Precision of the double value will be reduced and some value will not be displayed because the digit range for Float is set to 1~10 in WindO/I-NV4.

For example: Double value “113.766093633332999957019637804” in ABB unit will be displayed as the Float value “113.76609” on the HMI.

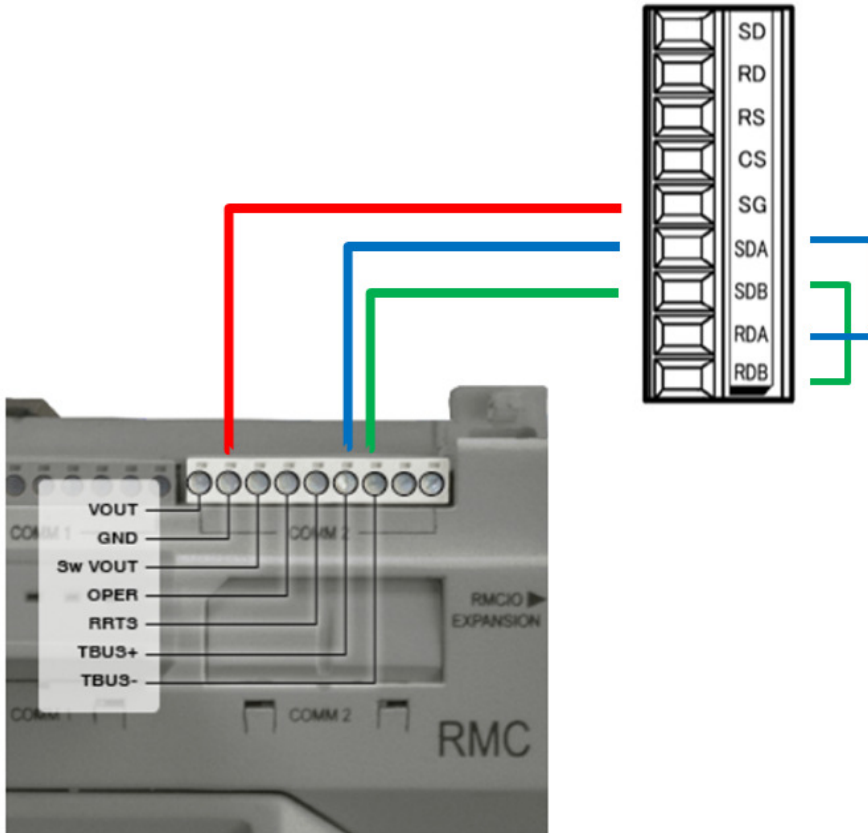


3. Wiring Diagram

RS232 Connection between ABB and IDEC HMI



RS485 Connection between ABB and IDEC HMI



RS422 Connection between ABB and IDEC HMI

