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Knowledge Base Article

Product Group: Multilog On-Line Systems
Product: IMx
Version: N/A

Abstract

The Modbus capabilities within the SKF Multilog IMx On-Line System allows 16 analog and 8 digital channels to place data into predefined Modbus registers, and allows the IMx to receive up to 16 channels of Modbus data from an external source. This article will describe how to configure the IMx for Modbus communications, and will cover only the IMx Modbus output.

Overview

Follow the steps below to configure the IMx for Modbus communications:

1. In SKF @ptitude Analyst, go to Customize > Online Settings. [Figure 1]

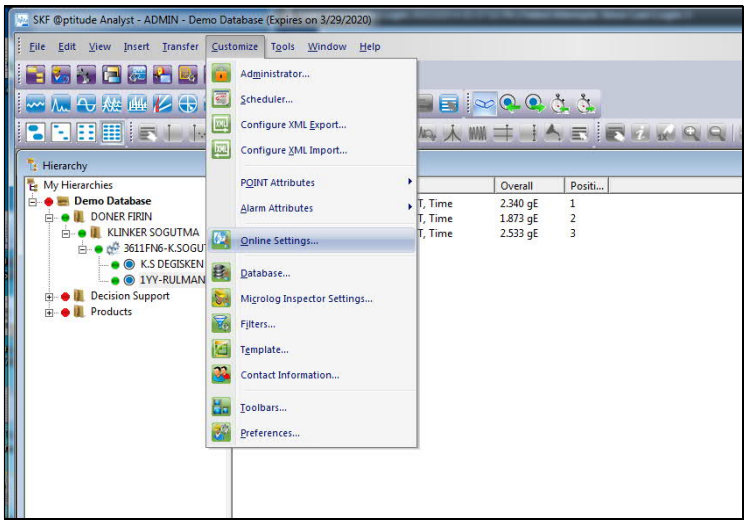

Figure 1. Customize > Online Settings

2. Select the IMx to configure for Modbus communications, then click the Config... button. [Figure 2]

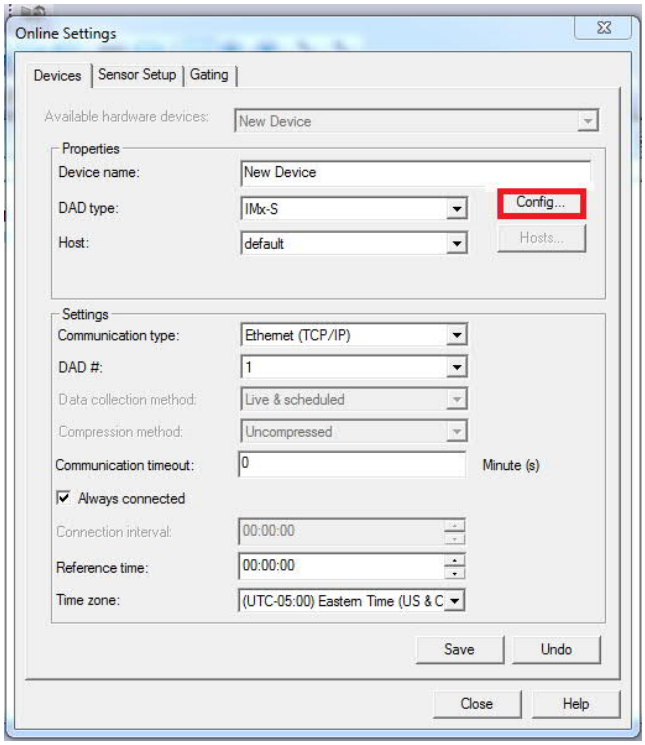

Figure 2. Online Settings dialog

3. Next, click on the Communication tab. [Figure 3]

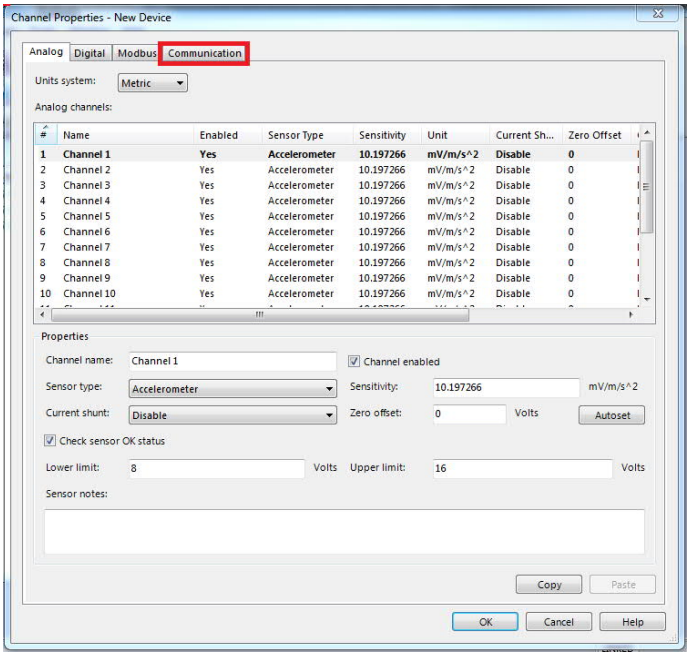

Figure 3. Communication tab

4. Click the Modbus radio button. [Figure 4]

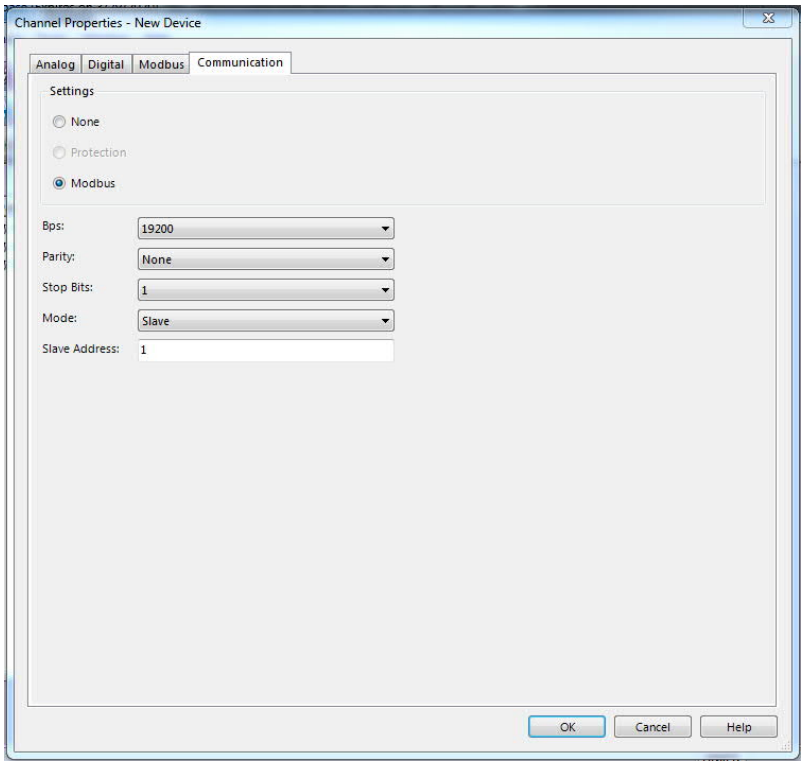

Figure 4. Communication settings

5. Set Bps, Parity, Stop Bits and Slave Address to match the Modbus system settings. [Figure 5]

RS485 Transmission Parameter	Supported values
Transfer rate (bps)	9600 / 19200
Parity	None / Even / Odd
Stop bits	1 / 2

Figure 5. Supported values

6. Mode has 2 choices: Master and Slave. Choose Slave and then set the Slave Address to an unassigned address on the system.

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The next steps are instructions on setting up a POINT to provide data to the Modbus registers.

7. Choose the POINT desired to have the overall value available for the ModBus. Open its POINT Properties and click on the Threshold tab. [Figure 6]

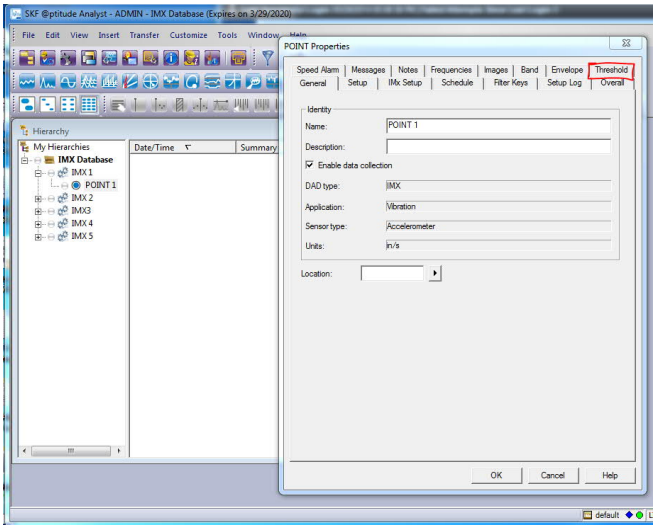

Figure 6. Threshold tab

8. Place a check in the “Enable active range” box in the Self gating section. Then, input the Min and Max values [Figure 7] to set the minimum and maximum scale for the Modbus output.

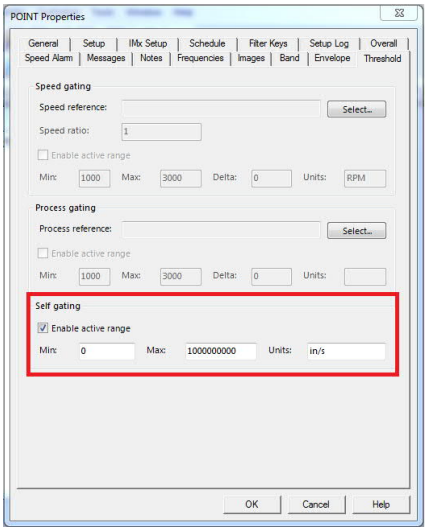

Figure 7. Self gating settings

Modbus registers

MasCon16 Measured Channel	IMx CM Part Measured Channel (Overall value)	Exported or Imported Modbus Register***
Vib 1	Vib 1	1
Vib 2	Vib 2	2
Vib 3	Vib 3	3
Vib 4	Vib 4	4
Vib 5	Vib 5	5
Vib 6	Vib 6	6
Vib 7	Vib 7	7
Vib 8	Vib 8	8
Vib 9	Vib 9	9
Vib 10	Vib 10	10
Vib 11	Vib 11	11
Vib 12	Vib 12	12
Vib 13	Vib 13	13
Vib 14	Vib 14	14
Vib 15	Vib 15	15
Vib 16	Vib 16	16
Speed 1	Speed 1*	17
Speed 2	Speed 2*	18
-	Speed 3*	19
-	Speed 4*	20
-	Speed 5*	21
-	Speed 6*	22
-	Speed 7*	23
-	Speed 8*	24
-	Relay Mask**	25
-	Warning Mask**	26
-	Alarm Mask**	27
-	-	28
-	-	29
-	-	30
-	Process 1	31
-	Process 2	32
-	-	33
-	-	34
-	-	35

*IMX Speed Channels for Modbus are not supported yet
**Mask is a 16 bit mask which shows the condition of each channel in hex decimal
***Modbus register number 1 is equivalent to Modbus address 0x000

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Bit Representation of Relay Mask, Warning Mask and Alarm Mask

Bit representation in Hex	Channel numbers	Bit representation in Hex	Channel numbers
0x1000	13	0x0010	5
0x2000	14	0x0020	6
0x3000	14,13	0x0030	6,5
0x4000	15	0x0040	7
0x5000	15,13	0x0050	7,5
0x6000	15,14	0x0060	7,6
0x7000	15,14,13	0x0070	7,6,5
0x8000	16	0x0080	8
0x9000	16,13	0x0090	8,5
0xA000	16,14	0x00A0	8,6
0xB000	16,14,13	0x00B0	8,6,5
0xC000	16,15	0x00C0	8,7
0xD000	16,15,13	0x00D0	8,7,5
0xE000	16,15,14	0x00E0	8,7,6
0xF000	16,15,14,13	0x00F0	8,7,6,5
0x0100	9	0x0001	1
0x0200	10	0x0002	2
0x0300	10,9	0x0003	2,1
0x0400	11	0x0004	3
0x0500	11,9	0x0005	3,1
0x0600	11,10	0x0006	3,2
0x0700	11,10,9	0x0007	3,2,1
0x0800	12	0x0008	4
0x0900	12,9	0x0009	4,1
0x0A00	12,10	0x000A	4,2
0x0B00	12,10,9	0x000B	4,2,1
0x0C00	12,11	0x000C	4,3
0x0D00	12,11,9	0x000D	4,3,1
0x0E00	12,11,10	0x000E	4,3,2
0x0F00	12,11,10,9	0x000F	4,3,2,1

For further assistance, please contact the Technical Support Group by phone at 1-800-523-7514 option 8, or by e-mail at TSG-CMC@skf.com.