

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:

 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]

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vailable hardware devices:	New Device	
	Lisess Device	
Properties		
Device name:	New Device	- B
DAD type:	IMx-S	✓ Config
Host:	default	Hosts
Communication type: DAD #:	Ethemet (TCP/IP)	- -
Communication type:	Ethemet (TCP/IP)	-
DAD #:		<u> </u>
Data collection method:	Live & scheduled	T
Compression method:	Uncompressed	<u></u>
Communication timeout:	0	Minute (s)
Always connected		
Connection interval:	00:00:00	(*) (*)
Reference time:	00:00:00	•
-	UTC OF OD Fasters Time	US&C -



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

#	Name		Enabled	Sensor Ty	/pe	Sensitivity	Unit	Current Sh	Zero Offse	t 🗠
1	Channel 1		Yes	Accelero	meter	10.197266	mV/m/s^2	Disable	0	1
2	Channel 2		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1
3	Channel 3		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1 :
4	Channel 4		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	- ¢
5	Channel 5		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1
6	Channel 6		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1
7	Channel 7		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1
8	Channel 8		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1
9	Channel 9		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	1
10	Channel 10		Yes	Acceleror	meter	10.197266	mV/m/s^2	Disable	0	Ι,
-	~		м.			10.107000		a :	^	+
Ch	nannel name:	Channel 1				Channel en	abled			
Se	insor type:	Accelerometer 👻			Sensitivity: Zero offset:	10.197266		mV/m/s^2		
Cu	urrent shunt:	Disable 💌				0	Volts	Auto	set	
V	Check sensor	OK status								
Lo	wer limit:	8			Volts	Upper limit:	16			Volts
Se	nsor notes:									

Figure 3. Communication tab

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

Analog Digital	Modbus Communica	ation				
Settings						
O None						
Protection						
Modbus						
Bps:	19200		-			
Parity:	None		•			
Stop Rite:						
			•			
Mode:	Slave		•			
Slave Address:	1					

Figure 4. Communication settings

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

RS485	Supported
Parameter	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.



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

 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]

SF ©phude Analyst - ADM File Edit View Insett Image: Section of the secti	MN-DAX Database (Expires on 320200) Transfer Customic Tools Window Control of the Control of the Control of the Control Control of the Control of the Contro	20) Main OPINT Properties General Step General Step Hearty Name: Description: Fenble data co DAD type: Application: Sensor type: Units: Location:	23 ages Notes Frequences Images Band Envelope Treations IMA Setup Schedule Fitter Krys Setup Log Overal POINT1 POINT1 Mature Metation Accelerameter pra
×			OK Cancel Help



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.

Speed Alarm Mes	IMx Setup Sch sages Notes Freque	nedule Filter Ke Incles Images	eys Setup Log Band Envelope	Overall Threshold
Speed gating				
Speed reference	•		S	elect
Speed ratio:	1			
Enable active	range			
Min: 1000	Max: 3000	Delta: 0	Units:	RPM
Process gating				
Process reference	e:		S	elect
Enable active	range			
Min: 1000	Max: 3000	Delta: 0	Units:	
Self gating				
Enable active	range			
Min: 0	Max: 100	0000000 Ur	nits: in/s	

Figure 7. Self gating settings



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
20	Speed 6*	22
-23	Speed 7*	23
0.28	Speed 8*	24
-	Relay Mask**	25
	Warning Mask**	26
-	Alarm Mask"	27
	-	28
-	-	29
	-	30
	Process 1	31
-	Process 2	32
-)	-	33
-1	-	34
- 1	-	35

Modhus registe

*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 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	0x4000 15		7		
0x5000	0x5000 15,13 0x0050		7,5		
0x6000	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		
0x8000	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		0x0003	2,1		
0x0400		0x0004			
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	Dx000A	4,2		
0x0800	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		

Bit Representation of Relay Mask, Warning Mask and Alarm Mask



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

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