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Analogue Measurement

References

- Kongsberg K-Chief 700 Integrated Control System Product Description, 304844/B
- Kongsberg K-Chief 700 Operator Manual, 332618/B



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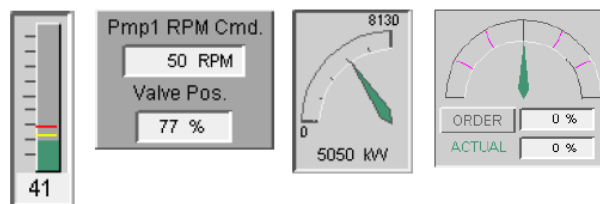
Content

- Description
- Analogue measurement symbols
- meas_av function module
- meas_av alarms
- Alarm limits
- Signal limits
- Suppress alarm
- Inhibit (consequence)



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Analogue measurement symbols





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Analogue measurement

IO Terminal Block

IO Terminal Block : RMP420-32 - PS053

Parameter Value

Module type	RMP420-32
Part number	
Serial number	
HW version	1.2.3
HW type	0
FW A version	1024.1200.1536.2013
FW P version	1024.1200.1536.2056
Address	3

Top: B53/RMP420/03

Description:

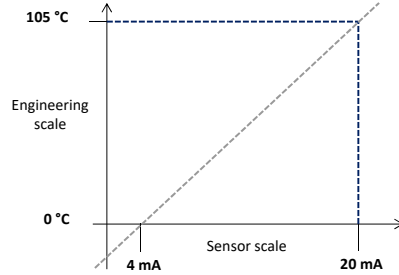
Task: Test 2

No.	IO tag	Status	Sensor value	Eng. value	Connection
24	IAH403111B	P	SM	4.00	OK T IAH403111B P ProMeas
25	IAH4031124	P	SM	10.86 mA	OK T IAH4031124 P ProMeas
26	IAH4031125	P	SM	10.83 mA	OK T IAH4031125 P ProMeas
27	IAH4031126	P	SM	100.00 ohm	OK T IAH4031126 P ProMeas

IO Point Parameters

Signal Conditioning

Parameter	Value	Unit
Sensor scale max.	20.00	
Sensor scale min.	4.00	
Sensor unit	mA	
Engineering scale max.	105.00	
Engineering scale min.	0.00	
Engineering unit	deg C	
Dead band	0.00	%

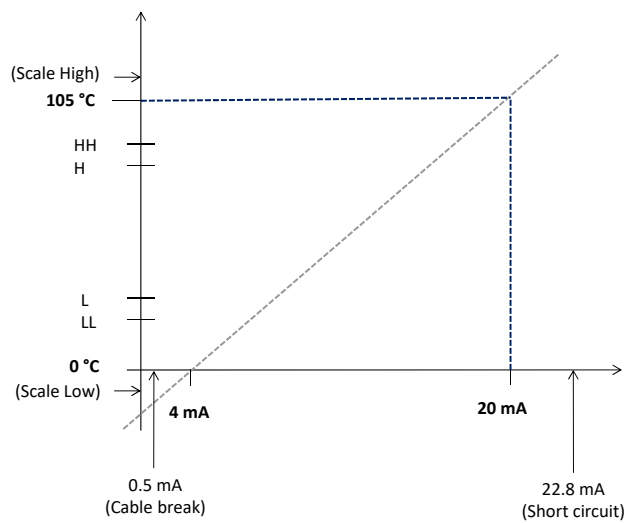


Signal Conditioning	
Scale	
Sensor scale max.	20.00
Sensor scale min.	4.00
Sensor unit	mA
Engineering scale max.	105.00
Engineering scale min.	0.00
Engineering unit	deg C
Dead band	0.00



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Limits



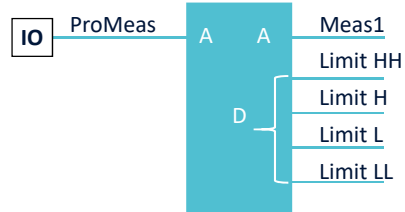


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meas_av function module

measurement_analogue vessel

- Use for handling an analogue input measurement signal
- ProMeas: Process Measurement
- Meas1: Measurement



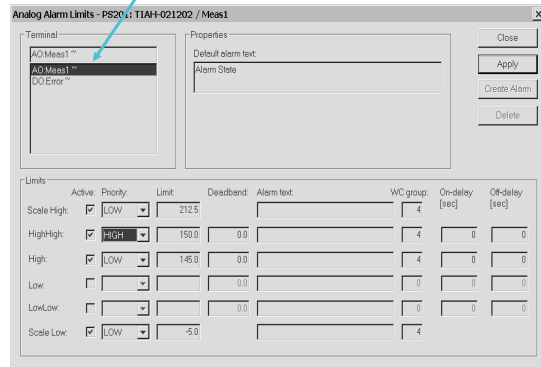
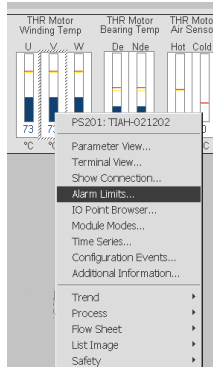
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meas_av alarm limits

To add or edit alarm limits:

- Open Alarm Limits dialog box

Analogue alarms limits are defined on the Meas1 terminal

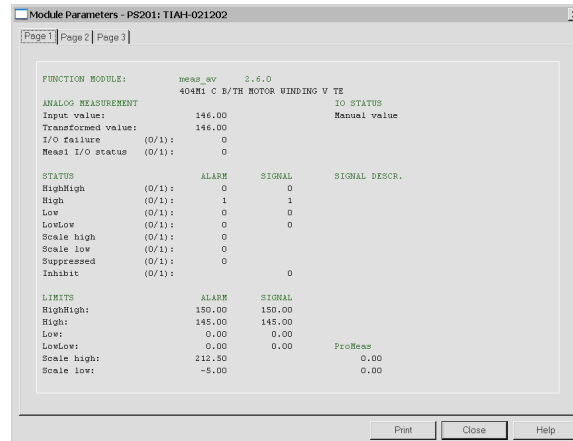




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Alarm information in Parameter view

Meas1 terminal → High alarm limit → Status high alarm set to 1



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meas_av signal limits

“Signals” are directly connected to the four digital limit terminals:

- Limit HH
- Limit H
- Limit L
- Limit LL





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Signal limits

Module Parameters - PS201: TIAH-021202

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CONSTANTS		SIGNAL LIMITS	
Gain:	1.00	Set delay (sec):	0.00
Bias1:	0.00	Clear delay (sec):	0.00
Bias2 pos/seg (0/1):	0	Hysteresis:	0.00
Total bias:	0.00	Limits follow alarm (0/1):	1
pt100 cable res. (ohm):	0.00	HH: Limit:	150.00
Zero suppression limit:	0.00	Descr:	0
No absolute value (0/1):	0	H: Limit:	145.00
Filter time const. (sec):	0.00	Descr:	0
OTHER		L: Limit:	0.00
Transformation (0-3):	0	Descr:	0
Raw value on Meas2 (0/1):	0	LL: Limit:	0.00
OKOut high limit:	212.50	Descr:	0
OKOut low limit:	-5.00	LL: Limit:	0.00
OKOut limits follow scale limit:	(0/1): 1	Descr:	0
Inv. OKOut term. (0/1):	0	ALARM SUPPRESSION	
Range high limit:	200.00	Inv. AlSuppress term. (0/1):	0
Range low limit:	0.00	AlSuppress reset delay (sec):	0.0
Interlock value:	0.00	Fast limit of filter (0/1):	1
USE IO VALUES		Inv. Inhibit term. (0/1):	0
Eng. unit and range from IO:	(0/1): 1	Inhibit reset delay (sec):	0.0

Print Close Help



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Signal information

Module Parameters - PS201: TIAH-021202

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FUNCTION MODULE: meas_mv 2.6.0

404#1 C B/TH MOTOR WINDING V TE

ANALOG MEASUREMENT		IO STATUS	
Input value:	146.00	Manual value	
Transformed value:	146.00		
I/O failure (0/1):	0		
Meas1 I/O status (0/1):	0		

STATUS		ALARM	SIGNAL	SIGNAL DESCR.
HighHigh (0/1):	0	0	0	
High (0/1):	1	1	1	
Low (0/1):	0	0	0	
LowLow (0/1):	0	0	0	
Scale high (0/1):	0			
Scale low (0/1):	0			
Suppressed (0/1):	0			
Inhibit (0/1):	0			

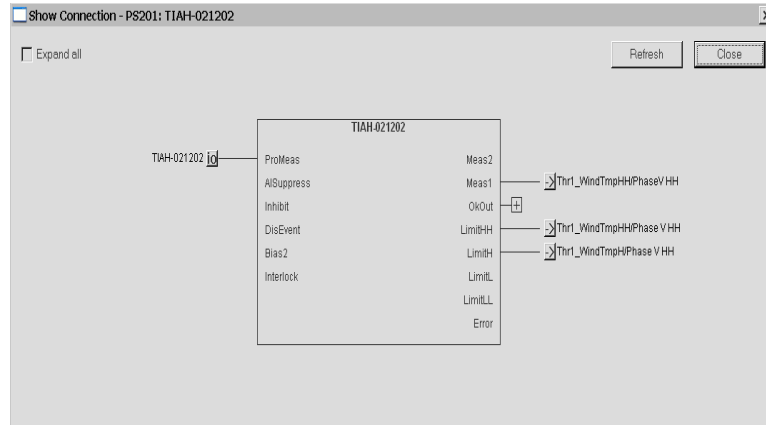
LIMITS		ALARM	SIGNAL	ProMeas
HighHigh:	150.00	150.00	150.00	
High:	145.00	145.00	145.00	
Low:	0.00	0.00	0.00	
LowLow:	0.00	0.00	0.00	
Scale high:	212.50			0.00
Scale low:	-5.00			0.00

Print Close Help



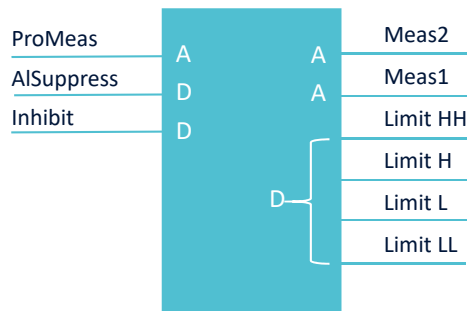
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Show Connection for meas_av function module



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Suppress and Inhibit

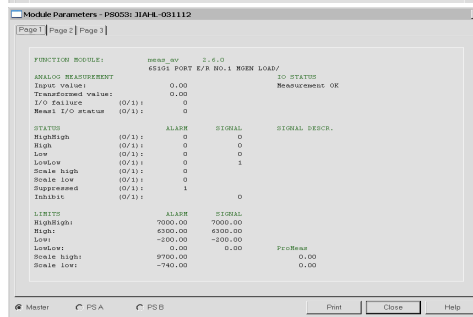
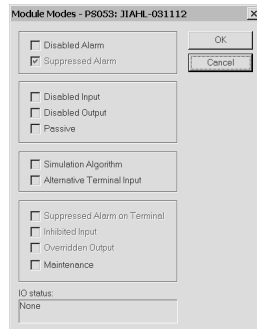




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Suppress alarm

No alarm reporting
Signal terminal(s) to 1



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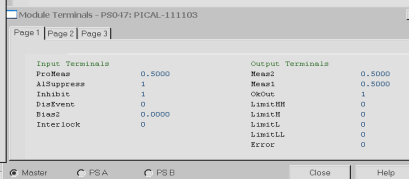
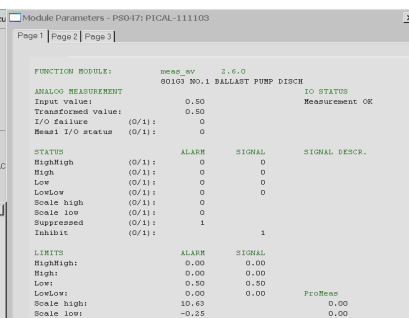
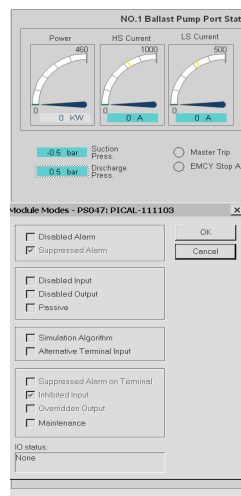
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Inhibit a function module

Alarm reporting as normal,
but Signal terminals are set to 0



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Exercises:

- Analogue Measurement
- Alarm Suppression



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Learning Objectives

- Identify a analogue measurement function module (symbol, type and version)
- Describe the functionality of a “meas_av” function module
- Explain the analogue alarm settings in Alarm Limits dialog box
- Identify and explain the signal settings for a function module
- Explain the difference between analogue alarm limits and signal limits
- Change and add analogue alarm limits and signal limits on terminals which already have alarms configured
- Identify and explain a inhibited function module
- Identify and explain an alarm suppressed status for a function module
- Predict the consequences when making changes to a “meas_av” function module



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**End of the
presentation**

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