Model M3LT Thermocouple Transmitter **PC CONFIGURATOR SOFTWARE** Model: M3LTCFG

USERS MANUAL

CONTENTS

1.	GETTI	NG STARTED	4
	1.1. PC	REQUIREMENTS	4
	1.2. INS	TALLING & DELETING THE PROGRAM	4
	1.3. STA	ARTING UP THE M3LTCFG	5
	1.4. OP	TION /A & OPTION /B	5
2.	MONIT	OR	6
	2.1 STA	ARTING UP	6
	22 CO		7
	2.3 MO		
	2.3.	1. DEVICE MODE	9
	2.3.	2. DEVICE STATUS	9
	2.3.	3. BARGRAPH & TREND GRAPH	10
3.	CONFI	GURATION	11
	3.1. INP	UT CONFIGURATION	11
	3.2. DE	TAILED INFORMATION	12
	3.3. ANA	ALOG OUTPUT	13
4.	ONE S	TEP CALIBRATION	14
	4.1. INP	UT CALIBRATION MODE	15
	4.2. OU ⁻	TPUT CALIBRATION MODE	16
5.	INPUT	/ OUTPUT CALIBRATION	17
	51 DA(17
	5.1. 5.1.	1 I OWER BANGE DAC TRIMMING	17
	5.1.	2. UPPER RANGE DAC TRIMMING	17
	5.1.	3. RESETTING TO THE DEFAULT	17
	5.2. SEN	NSOR CALIBRATION	18
6.	OFFLI	NE CONFIGURATION AND READ / WRITE FILES	19
	6.1. CU	STOM TC	19
	6.1.	1. USER-SPECIFIC TC TABLE	19
	6.1.	2. CUSTOM TC WINDOW	20
	6.2. FILI	E MANAGEMENT	22
	6.2.	1. MODIFYING PARAMETERS	23
	6.2.	2. TRANSFERRING DATA TO/FROM DEVICE	24
	6.2.	3. READING/WRITING FILES	25
	6.2. 6.2	4. COMPARING FILE TO DEVICE	26 27
	0.2.		· · · · · · · · · · · · /

7.	DIAGNOSTICS	29
8.	LANGUAGE	30

1. GETTING STARTED

1.1. PC REQUIREMENTS

The following PC performance is required for adequate operation of the M3LTCFG.

PC	IBM PC compatible
OS	Windows 7 (32-bit, 64-bit)
	Windows 10 (32-bit, 64-bit)
	The software may not operate adequately in certain conditions.
CPU/Memory	Must meet the relevant Windows' requirements.
Hard disk	10MB minimum free space
PC configurator cable	Model COP-US (USB) or MCN-CON (RS-232-C)

1.2. INSTALLING & DELETING THE PROGRAM

INSTALL

The program is provided as compressed archive. Decompress the archive and execute 'setup.msi' to start up the M3LTCFG installer program. Follow instructions on the Windows.

In the M3LTCFG installer program, all the software of the M3CFG series will be installed. If you would like to install only M3LTCFG, change to "X" for other software in the window appeared during the installation as shown below.

岗 M3CFG R8 Setup	
Custom Setup Select the way you want features to be installed.	
Click the icons in the tree below to change the wa	y features will be installed.
M3CFG M3LUCFG M3LPACFG M3LPACFG M3LPACFG	PC Configurator software for M3L series
X • M3LVCFG M3LTCFG M3LCCFG M3LDYCFG M3LMCFG	This feature requires 1KB on your hard drive. It has 1 of 8 subfeatures selected. The subfeatures require 1261KB on your hard drive.
	Browse
Reset Disk Usage	Back Next Cancel

DELETE

Open Control Panel > Add/Remove Programs. Select the "M3CFG Rx" from the program list and click Delete button.

1.3. STARTING UP THE M3LTCFG

Connect the model M3LT Thermocouple Transmitter to the PC via the PC configurator cable. Press Start on the task bar and choose M3CFG > M3LTCFG from the Program menu.

1.4. OPTION /A & OPTION /B

The M3LT with Option /B is not designed for PC configuration but only for monitoring on the PC, while the Option /A version is fully programmable.

OPTION /B

When you connect the Option /B version to the PC and start up the M3LTCFG program, you can confirm the current setting but these buttons and fields used for configuring the module are greyed out and thus unavailable.

The M3LTCFG features available for the Option /B version are: monitoring, One Step Calibration, zero/span, loop test output and diagnostics.

OPTION /A

The Option /A version is fully programmable including the following: input sensor type, PV unit, and PV range, analog output type, range and custom TC table.

This version of the M3LT can be programmed and calibrated even when the configuration mode switch (DIP switch SW2-8) is set to DIP SW mode, however, once the power supply to the M3LT is turned off and on, it restarts based on DIP switch configurations. It must be started up with the SW2-8 turned on so that it reads its EEPROM contents regardless of other DIP switch configurations.

2. MONITOR

2.1. STARTING UP

Figure 1 shows the initial window of the M3LTCFG PC Configurator window.

In order to enable the tools shown on the screen, the model M3LT Thermocouple Transmitter must be connected to the PC via the PC configurator cable.

Figure 1. Initial Window

💕 MSLTOFG PO	C Confie	surator Ver1.0.1										
Cor	M3L1	Г rator	Device Mode	сом		DIP	z/s	IRG	ORG		CFG	
N N	Monito	or	Device Status		во	ADC		AFX	AOS		PV	
Senso	or Infor	mation	PV	F	∾ %		Ter	·m.		AO		Functions
Sensor type	e	Туре К	1000-	1	.00		100) <mark>-</mark>		20 -		Connect
Sensor wire:	s	2 Wires	_		_		80	_		- -		Upload
PV unit		degC	800—	{	30 —			_		-		Detailed Info
	Upper	1000.000	_				_		16		Analog Output	
	Lower	0.000	_ 600—	6	- 60 —		40	_		- - -		One Step Cal
PV upper limi	iit	1100.000	_	-		-					Trim DAC	
PV lower limit	it	0.000		40						-		
PV minimum sp	pan	4.00	-	40						-		Sensor Cal
			-		_			-		8 -		Diagnostics
			200— —		20 — —			_		- -		Custom TC
					_		-4(-		
			0 —		<u> </u>					4 -	<u>i</u>	
			0.00	(0.00		0.1	00	0.0			File
			degC	%			degC			mA		Language
			PV Graph	PV 4	% Graph		Term.	Graph		AO Gra	ph	Exit

2.2. CONNECTING THE DEVICE

On the initial window, click [Connect] and the Device Connection menu appears on the screen.

M3LTCFG PC Configurator Ver1.0.16										_ _ x
M3LT Configurator	Device Mode	сом		DIP	Z/S	IRG	ORG		CFG	
Monitor	Device Status		BO	ADC		AFX	AOS		PV	
Device Connection	PV	F	v %		Ter	m.		AO		Functions
COM port	1000	1	.00		100			20-		Connect
USB Serial Port (COM2)					80	_		-		Upload
	800—	8	30 —			_		-		Detailed Info
Connect Device			_			_		16 -		Analog Output
	_		_						One Step Cal	
	600— —	e	50 — _		40	_		-		Trim DAC
Disconnect Device	_		_			_		12 -		
	400—	4	+0 _			_				Sensor Cal
			_		0	_		-		Diagnostics
			_			3		8 –		Diagnostics
	200—	2	20					-		
	-		_		40	-				Custom TC
	0 —		0		-40			4 -		
) 00 _		 	10 _		0.00	1	File
	degC		%		de	gC		mA		Language
Close Device Connection	PV Graph	PV 9	% Graph		Term.	Graph		AO Gra	ph	Exit

Figure 2. Device Connection

COM port	Choose an adequately configured COM port to be connected.
Connect Device	Connects the device. Once the connection is established, the program uploads the device's configuration information and automatically opens Sensor Information window. The window is the base for various operations to configure the M3LT.
Disconnect Device	Disconnects the currently connected device.
Close Device Connection	Close the Device Connection window.

2.3. MONITORING TRENDS

Once the device is connected, the Sensor Information menu and the trend monitors appears on the screen. The user can configure various parameters of the M3LT.

Use [Upload] button to re-load device information e.g. when you replace the module with a new one or when you make changes to M3LT's configuration without using this tool.

💕 M3LTCF	G PC Confi	gurator Ver1.0.1										
	M3L [*] Configu	T rator	Device Mode	сом		PC	z/s	IRG	ORG		CFG	
	Monit	or	Device Status		во	ADC		AFX	AOS		PV	
S	ensor Infor	mation	PV	F	°V %		Ter	m.		AO		Functions
Senso	or type	Type PR	1370	1	.00		100			20 -	\square	Connect
Senso	or wires	2 Wires	1200-		_		80	_		-		Upload
PV	unit	degC	=	8	30 —			_				Detailed Info
	Upper	1370.000	Ē		_			_		16		Analog Output
PV range	Lower	-270.000	800— 				4N	- - 40-				One Step Cal
PV up	per limit	1370.000	-	_						- 12		Trim DAC
PV lov	ver limit	-270.000	400									
PV minin	num span	20.00	400	40 — —			_ _					Sensor Cal
ĺ		,	-		_		0	-		- - 8		Diagnostics
			o _	2	20 —			_		-		
					-		-40	-		-		Custom TC
			-270 =		0		-40			4 -		
			60.09	2	0.13		23.	23		7.22		File
			degC	%			degC		mA			Language
			PV Graph	PV 4	% Graph	۰]	Term.	Graph		AO Graj	ph	Exit

Figure 3. Sensor Information

2.3.1. DEVICE MODE

Device Mode summarizes the device's current operation status and communications status with the PC by lamps.

Device Mode	сом	PC	z/s	IRG	ORG	CFG
		or				
Device Mode	сом	DIP	z/s	IRG	ORG	CFG

[COM] lamp	Blinks with the normal communications condition.
[DIP]/[PC] lamp	Shows the device's configuration mode: DIP switch or PC. For the M3LT version /B, only DIP switch mode is available.
[Z/S] lamp	Red light turns on when the device is in the DAC trimming mode.
[IRG] lamp	Red light turns on when the device is in the input one-step calibration mode.
[ORG] lamp	Red light turns on when the device is in the output one-step calibration mode.
[CFG] lamp	Red light turns on when data changes have been done on the configuration software since it was stored the last time. It turns off once the data has been stored into the nonvolatile memory.

2.3.2. DEVICE STATUS

Device Status summarizes the current device status by lamps.

Device Status	во	ADC		AFX	AOS		PV	
---------------	----	-----	--	-----	-----	--	----	--

[BO] lamp	Red light turns on with 'Input error' detected (ADC overrange or underrange).
[ADC] lamp	Red light turns on with ADC's hardware errors.
[AFX] lamp	Red light turns on when the analog output entered in Fixed AO mode.
[AOS] lamp	Green light turns on when the analog output is diagnosed to be normal. Red light turns on when the output is saturated upscale or downscale.
[PV] lamp	Green light turns on when the sensor input is in the specified range. Red light turns on when it is out of the range.

2.3.3. BARGRAPH & TREND GRAPH

Four bargraphs indicating PV (degC, degF or Kelvin), PV in % of the selected range, the terminal temperature and analog output in engineering unit are available.

The graph scales for the PV in % and the terminal temperature can be modified unlike the PV and the analog output in engineering unit of which the scales are automatically determined and fixed according to the selected range.

At the bottom of each bargraph is [Graph] button which opens a trend graph for the item. Use [Start] and [Stop] buttons to start/stop recording data, and click [Close Trend Graph] to close the graph window.



PV Bargraph Figure 4. Trend Graph

3. CONFIGURATION

3.1. INPUT CONFIGURATION

In Figure 3, the Sensor Information menu on the left shows basic configuration information of the connected device. When you need to change configurations, click the left button for the required parameter to modify its setting.

Sensor Information								
Senso	or type	Type PR						
Senso	r wires	2 Wires						
PV	unit	degC						
PV range	Upper	1500.000						
Finange	Lower	0.000						
PV upp	oer limit	1760.000						
PV low	ver limit	0.000						
PV minin	num span	20.00						

Sensor type	Input sensor types. Sensor types are following 14 types
	Type PR
	Type K
	Type E
	Type J
	Туре Т
	Type B
	Type R
	Type S
	Type C
	Type N
	Type U
	Type L
	Type P
	Custom TC
	Click [Sensor type] button to choose input sensor type. Choose with SW2-4, 2-5,
	2-6, 2-7 in DIP SW mode.
Sensor wires	Shows number of wires.
PV unit	PV and the terminal temperature in engineering unit are displayed.
	Choose from among this three choices.
	degC
	degF
	Kelvin
	Click [PV unit] button to choose unit type.
PV range (Upper / Lower)	Specifies input temperature range for 0% and 100%.
	Click the left button opens a dialog box to change the setting. The input temperature
	range can be also changed on One Step Calibration mode.
PV upper limit	Shows the usable range information for the selected type of sensor.
PV lower limit	
PV minimum span	

3.2. DETAILED INFORMATION

In Figure 3, click [Detailed Info] in Functions menu to the right opens the [Detailed Information] menu as shown in Figure 5.

Figure 5. Detailed Information

🕡 M3LTCFG PC Config	urator Ver1.0.1										
M3LT Configurator		Device Mode	сом		PC	z/s	IRG	ORG		CFG	
Monito	Monitor			во	ADC		AFX	AOS		PV	
Detailed Info	rmation	PV	F	°V %		Ter	m.		AO		Functions
PV damping	1.000	1370		.00		100)		20-		Connect
Burnout mode	None	1200-		_		80	_		- -		Upload
CJC switch	CJC OFF	Ē	8	- 30 —			_		-		Detailed Info
Tag No.	Tag Name	Ē		_					16		Analog Output
Serial number	XI020327	800— 	E E	- 30							One Step Cal
Device type	M3LT/A	-		_					- 12_		Trim DAC
Hardware revision	M3LT HV01.00	400							-		
Software revision	M3LT FV02.01	400		+U — —					-		Sensor Cal
ĺ		Ē		_			-		- - 8		Diagnostics
		o _	2	20 —			_		-		
						40			-		Custom TC
	-270 =		0		-40			4 –			
	60.05	20.13					7.22			File	
				%		degC			mA		Language
Close Detailed Ir	nformation	PV Graph	PV «	% Graph		Term.	Graph		AO Graj	ph	Exit

PV damping	Specifies the time constant for the primary input filter. Selectable range is
	from 0.5 sec. up to 30 sec. When you do not need a filtering, specify '0.'
Burnout mode	Specifies the burnout mode from among three choices.
	Upscale
	Downscale
	None
	Click [burnout mode] button to specify either the output should go upscale
	or downscale in case that a wire breakdown is detected.
CJC switch	Specifies the CJC switch from among two choices.
	CJC OFF
	CJC ON
	Click [CJC switch] button enables or disables the cold junction compensa-
	tion.
	Note: When CJC ON, PV value varies as thermoelectric force of cold junc-
	tion compensation is added.
Tag No.	You can enter a tag name using up to 16 alphanumerical characters.
Serial number	Automatically displayed.
Device type	
Hardware revision	
Software revision	
Close Detailed Information	Close the window.

3.3. ANALOG OUTPUT

In Figure 3, click [Analog Output] in Functions menu to the right opens the [Analog Output] menu as shown in Figure 6.

💕 MBLTC	FG PC Confi	gurator Ver1.0.1												
	M3LT Configurator		Device Mode	сом		PC	z/s	IRG	ORG		CFG			
Monitor			Device Status		во	ADC		AFX	AOS		PV			
	Analog Output		PV	F	°V %		Ter	m.		AO		Functions		
AC) type	0 to 20 mA	1370	1	.00		100			20 -		Connect		
		4 3 2 1	1200-		_		80	_		-		Upload		
SW1	position		=	8	30 —			_		-		Detailed Info		
AC) mode	Normal AO	Ē		_			_		16- -		Analog Output		
A	O unit	mA	800— 				40		-		One Step Cal			
	Upper	20.000	-				-			- 12_		Trim DAC		
Range	Lower	4.000	400				-			-				
Upp	per limit	20.000	400		+U — —		n		- - -		Sensor Cal			
Lov	ver limit	0.000	-		_				- - 8 –		Diagnostics			
Minim	ium span	1.000	0 -	2	20			_						
9	iet AO for current	: PV output	Ē		-		-40			-		Custom TC		
Set AO for specified value			-270 =		0					4 -				
Exit Fixed AO mode			60.00	20.12			23.57		23.57			7.22		File
				%			degC			mA		Language		
C	lose Analog	Output	PV Graph	PV <	% Graph		Term.	Graph		AO Gra	ph	Exit		

Figure 6. Analog Output

The Analog Output menu on the left shows the output type and ranges. When you need to change configurations, click the left button for the required item to modify the setting.

AO type	Specifies the Analog Output type from among three choices.
	0 to 20 mA
	-2500 to +2500 mV
	-10 to +10 V
	Click [AO type] button to specify output type.
SW1 position	Shows DIP SW configuration (hardware setting) required for the selected
	output type. Confirm actual setting.
AO mode	Shows the output mode. 'Normal AO' is usually displayed.
AO unit	Shows engineering unit for the output signal.
Range (Upper / Lower)	Specifies the output range for 0% and 100%.
Upper limit	Show the usable range information for the selected output type.
Lower limit	
Minimum span	
Set AO for current PV output	The output signal is held at the current value.
Set AO for specified value	You can set a specific value to fix the output in order to perform an output
	loop simulation test.
Exit Fixed AO mode	Cancels the fixed output mode to return the device into normal output
	mode.
Close Analog Output	Close the window.

4. ONE STEP CALIBRATION

In Figure 3, click [One Step Cal] on the right control panel opens the One Step Calibration menu as shown in Figure 7. The 'One Step Calibration' technique realizes automatic input and output ranging with a signal simulator connected to the module's input terminals.

🚺 M3LTCFG PC Ca	onfigurator Ver1.0.1										
M3LT Configurator		Device Mode	сом		PC	z/s	IRG	ORG		CFG	
Mor	Device Status		во	ADC		AFX	AOS		PV		
One Step (Calibration	PV	F	PV %		Ter	m.		AO		Functions
In	put	1370	1	.00		100)		20		Connect
Enter PV cali	ibration mode	1200-		-		80	_		-		Upload
Lower Cal	Upper Cal	Ē	{	30 —			-		-		Detailed Info
Exit PV calib	pration mode	=		_			_		- 16 -		Analog Output
Out	tout	800	- 80			- - 40_			-		One Step Cal
Enter AQ cal	ibration mode	Ē				40	-		-		Trim DAC
		Ē							12-		
Lower Cal		400 <u>-</u> -	40 —				-				Sensor Cal
Exit AO calit	bration mode	Ē		-		0	_		-		Diagnostics
				 20			-		8		
	U -					_		-		Custom TC	
	-				-40						
	-270					C		4 —			
	59.93	20.12			23.	61		7.22		File	
ſ	degC		%		degC			mΑ		Language	
Close One St	ep Calibration	PV Graph	PV Y	% Graph	۱ I	Term.	Graph		AO Gra	ph	Exit

Figure 7. One Step Calibration

4.1. INPUT CALIBRATION MODE

- (1) Connect the M3LT to a simulator as described in the M3LT instruction manual.
- (2) Click [Enter PV calibration mode] in order to turn the module into the input calibration mode. The red [IRG] lamp in [Device Mode] panel at the top turns ON while the module is in this mode.



(3) Apply desired 0% and 100% signal levels and click [Lower Cal] and [Upper Cal] buttons respectively so that the input range is automatically set.



Input: 1000 degC (Upper Cal)



(4) Click [Exit PV calibration mode] when the calibration is complete.

4.2. OUTPUT CALIBRATION MODE

(1) Click [Enter AO calibration mode] in order to turn the module into the output calibration mode. The red [ORG] lamp in [Device Mode] panel at the top turns ON while the module is in this mode.



(2) Increase or decrease the simulated input until the output multimeter shows desired 0% and 100% signal levels and click [Lower Cal] and [Upper Cal] buttons respectively so that the output range is automatically set.



Apply the input so that output become 100%



(3) Click [Exit AO calibration mode] when the calibration is complete.

Click [Close One Step Calibration] to close the window.

5. INPUT / OUTPUT CALIBRATION

5.1. DAC TRIMMING

Click [Trim DAC] button to open the Trim DAC window as shown in Figure 8.

Figure 8	. Trim	DAC	(e.q.	Upper	Range	Trim	Mode)
			(-··	- F F			,

🕡 M3LTOFG	PG Config	surator Ver1.0.1										
Co	M3LT Configurator		Device Mode	сом		PC	z/s	IRG	ORG		CFG	
Monitor			Device Status		во	ADC		AFX	AOS		PV	
	Trim DA	IC	PV	F	∾ %		Ter	m.		AO		Functions
Enter	Lower Range	Trim mode	1370_	1	.00		100			20 -		Connect
Enter	Upper Range	Trim mode	1200-		_		80	_		- -		Upload
Trim b	y actual meas	ured value	-	{	- 30 —			_				Detailed Info
Up+	Up++	Up+++	Ξ		_			_		- 16 -		Analog Output
Down+	Down++	Down+++	800	ſ	-		40	-		-		One Step Cal
	lear Trim DAC	: data	-	-			40	_ _		- - 10		Trim DAC
Zero off:	set	0.260000	400		_			-		12-		
Span ga	ain	0.000000	400	2	40 — —		~	-			-	Sensor Cal
	,						U	-		- 8_		Diagnostics
			n	2	20 —			-				
			Ē		1			-		-		Custom TC
			-270 =		0		-40			- 4 -		
			59.89	20.12			23.	98	+	4.00		File
				%			degC		mA			Language
CI	ose Trim	DAC	PV Graph	PV «	% Graph		Term.	Graph		AO Gra	ph	Exit

5.1.1. LOWER RANGE DAC TRIMMING

- (1) Click [Enter Lower Range Trim mode]. The device outputs a fixed lower range signal level.
- (2) Measure the actual output signal at the receiving instrument to which the device output should be matched.
- (3) Click [Trim by actual measured value] to set the measured value.
- (4) Repeat setting [Trim by actual measured value] until the measured output shows the desired level. Alternately, use [Up] or [Down] buttons. [+], [++] and [+++] have different increments. Deviation from the default value is shown in [Zero offset]. Lower range value is adjustable within ±15%.

5.1.2. UPPER RANGE DAC TRIMMING

- (1) Click [Enter Upper Range Trim Mode]. The device outputs a fixed upper range signal level.
- (2) Measure the actual output signal at the receiving instrument to which the device output should be matched.
- (3) Click [Trim by actual measured value] to set the measured value.
- (4) Repeat setting [Trim by actual measured value] until the measured output shows the desired level. Alternately, use [Up] or [Down] buttons. [+], [++] and [+++] have different increments. Deviation from the default value is shown in [Span gain]. Upper range value is adjustable within ±15%.

5.1.3. RESETTING TO THE DEFAULT

Click [Clear Trim DAC data] to return the device to the factory default trimming values (0.0 for both Zero offset and Span gain).

Click [Close Trim DAC] to close the window.

5.2. SENSOR CALIBRATION

The input sensor can be calibrated with Zero and Span: Zero is represented as offset at the calibration point, while Span is represented as gain against the zero point. The gain must be set from 0.1 to 10.0.

Calibration points can be specified to any point within the measuring range.

Click [Sensor Cal] button to open the Sensor Calibration window as shown in Figure 9.

Figure 9. Sensor Calibration

💞 MSLTCF	G PC Configurator \	/er1.0.1										
	M3LT Configurator			сом		PC	z/s	IRG	ORG		CFG	
	Monitor		Device Status		во	ADC		AFX	AOS		PV	
s	ensor Calibration		PV	F	PV %		Ter	·m.		AO		Functions
	Read calibration data		1370		.00		100)		20 -		Connect
C	ear sensor calibration data		1200-		-		80	_		- - -		Upload
	Zero calibration		Ē	1	- 30 —			-		-		Detailed Info
	Span calibration		Ē		_			_		- 16 -		Analog Output
PV	59.871092	degC	800— 		- 30		4N	_		-		One Step Cal
Zero point	2.4778	m٧	-					-		- 12_		Trim DAC
Zero value	2.4743	m٧	_ 				_			-		
Gain	1.0000				+U		n	Ξ		- - 8 -		Sensor Cal
		,	-					-				Diagnostics
			o <u>–</u>	:	20 —			_				
					-		-40	_		-		Custom TC
			-270 =		0		-40			4 -		
			59.87	20.11			24.	24.08		7.22		File
				%			degC		degC mA			Language
Clos	e Sensor Calibrati	on	PV Graph	PV S	% Graph		Term.	Graph		AO Gra	ph	Exit

The present measured value is indicated in the middle. Refer to this value when calibrating the sensor. It takes several seconds for the calibration result affects the measured value on the display.

Apply zero calibration point input signal and click [Zero calibration] to open the field where you can enter a target value. The result is shown in the PV display field. Data before calibration is shown in the Zero point field, while that after calibration is shown in the Zero value field.

Apply span calibration point input signal and click [Span calibration] to open the field where you can enter a target value. The result is shown in the PV display field. Span point gain against the zero point is shown in the Gain field.

[Read calibration data] calls up and display the present calibrated values in these fields.

Click [Clear sensor calibration data] to return the device to the factory default status.

Factory default settings are: Zero Point = Zero Value = 0 mV, Gain = 1.0.

When the sensor type is changed, the calibration data are reset to these factory default values.

Click [Close Sensor Calibration] to close the window.

6. OFFLINE CONFIGURATION AND READ / WRITE FILES

6.1. CUSTOM TC

The M3LT supports the user-specific thermocouple table function. In order to use a user-specific table, the data in text format must be defined and registered. The procedure to use user-specific TC is as follows.

- 1. Create a user-specific table as following steps.
- 2. Click [Custom TC] button to open the Custom TC.
- 3. Click [Read table from file] button to read a characteristics data from a file stored in the PC. When uploaded, the file contents summery is indicated under Custom TC Table Contents. Characteristic data longer than 300 points are ignored.
- 4. Click [Display custom TC graph] button to show characteristics data in a graph.
- 5. Click [Write table to device] button to download currently displayed characteristics data to the M3LT.
- 6. When downloading is successfully complete, Status under Custom TC Table Contents shows 'Configured.' Then the option 'TC Spec (Custom TC)' becomes available to choose. If 'TC Spec' has been already selected before this setting is done, you can not download a particular data file.
- 7. Click [Read table from device] button to upload characteristics table registered in the M3LT. If there is no file registered, Status under Custom TC Table Contents shows 'Non configured.'
- 8. Click [Close Custom TC] button to close the window.

6.1.1. USER-SPECIFIC TC TABLE

User-specific TC data is defined in the format of texts. The file format is as following.

Define the minimum temperature value in Celsius (integer) at Minimum TC Temperature.

Specify the Temperature Step used in the table, from 1°C to 50°C (integer).

Describe characteristics data within { }. Data must be entered in mV. Up to 300 points can be specified.

```
/* Custom TC Table Definition
/* Ti = f(Xi) ( 0 <= i < Size )
    Temperature Step (1 to 50 degC)
/*
    -70 <= X(i) <= 70 mV
/*
    X(i) < X(i+1)
/*
/*
    2<= Size <= 300
Minimum TC Temperature = 0
                         <-- Minimum temperature T0 (°C)
                         <-- Temperature step (°C)
Step = 10
{
10.0000
                         <-- Voltage value for T0 (mV)
·
20.0000
                         <-- Voltage for Tmax (mV)
}
```

6.1.2. CUSTOM TC WINDOW

Click [Custom TC] button to open the Custom TC as shown in Figure 10.

🚺 M3LTCFG PC Conf	igurator '	Ver1.0.1										
M3L Configu	M3LT Configurator		Device Mode	сом		PC	z/s	IRG	ORG		CFG	
Monit	Monitor				во	ADC		AFX	AOS		PV	
Custom	TC		PV	F	∾ %		Term.			AO		Functions
Read table fro	m device		1370	1	.00		100			20 -		Connect
Write table to) device		1200-		_		80	_		- - -		Upload
Write table	to file		Ē	8				_				Detailed Info
Read table fi	rom file		Ξ		_			_		16		Analog Output
Display custom	TC graph		800	- 80			- - 10			-		One Step Cal
Custom TC Tab	le Conte	nts		,						- 12-		Trim DAC
Status	Confi	gured	400-	,			-			-		
Min temperature	-70	degC	Ē		-		0	-		-		Sensor Cal
Max temperature	70	degC			_			-		8 -		Diagnostics
Temperature step	10	degC	0 <u> </u>	2	20			_		-		Curley TC
Table size	15	Max size 300		-			-40			-		
	, , , , , , , , , , , , , , , , , , , ,				0					4 –		
				2	20.09		25.19					File
					%			degC		mA		Language
Close Cust	tom TC		PV Graph	PV S	% Graph		Term.	Graph		AO Gra	ph	Exit

Figure 10. Custom TC

Read table from device	The program uploads	characteristics table registered in the M3LT. If there is no						
	file registered, Status ι	file registered, Status under Custom TC Table Contents shows 'Non configured.'						
Write table to device	The program download	The program downloads currently displayed characteristics to the M3LT.						
	When downloading is	successfully complete, Status under Custom TC Table						
	Contents shows 'Confi	gured.'						
Write table to file	The program saves cu	rrently displayed characteristics data to a file. After reading						
	the data from M3LT to	the table in the PC with [Read table from device], save the						
	data.							
Read table from file	The program uploads	a file stored in the PC. When uploaded, the file contents						
	summery is indicated u	under Custom TC Table Contents.						
Display custom TC graph	Characteristics data ca	an be shown in a graph. (figure 11)						
Custom TC Table Contents	Show the summary of	Custom TC Table						
	Status	Show the status of Custom TC Table.						
	Min temperature	Minimum temperature in degC						
	Max temperature Maximum temperature in degC							
	Temperature step Temperature step in degC							
	Table size Defined number of point							
Close Custom TC	Close the window.							

Figure 11. Custom TC graph

💞 M3LTCFG PC Conf	igurator \	Ver1.0.15											
M3L Configu	T rator		Device	Mode	сом		PC	z/s	IRG	ORG		CFG	
Monit	or		Device	Status		во	ADC		AFX	AOS		PV	
Custom	TC						Cust	tom TC	EMF T	able			
Read table from	m device		()	100.00									
Write table to) device		(mv)	80.00									
Write table	to file			60.00									
Read table fr	Read table from file			40.00								\nearrow	
Display custom	Display custom TC graph			20.00						-	_		
Custom TC Tabl	le Conte	nts		0.00									
Status	Confi	gured	EMF	- 20, 00	, =								
Min temperature	-50	degC		40.00	Ē								
Max temperature	230	degC		- 40, UL	Ē								
Temperature step	10	degC		- 60. 00									
Table size	Table size 29 Max size 300			- 80. 00) 5			50			1	50	250
							Tempe	rature(i	degC)				
Close Cust	Close Custom TC							Close	Graph				

6.2. FILE MANAGEMENT

The M3LT's configurations can be saved in a file and then read out to be downloaded to multiple modules.

Click [File] button to open the File Management window as shown in Figure 12.

While this window is active, the device connection is severed, therefore the device can be connected and disconnected freely except during Upload or Download operations.

The window is divided in two sections: 'File Configuration' and 'Device Configuration.' 'File Configuration' shows data transfer (Read or Write) between the PC Configurator and the PC, while 'Device Configuration' shows data transfer (Upload or Download) between the configurator and the device.

Click [Exit] to complete the file management operations. The device will remain disconnected and must be 'Connected' to start monitoring.

NOTE

- (1) Validity of the selected range values is not verified in this window. Please make sure to set them according to the described specifications.
- (2) Custom TC table data is not handled in this window.
- (3) With the Option /B version, Download is unavailable. However, Upload is possible to save a configuration file, or to compare with other configurations.
- (4) A comment can be entered in 'Description' in File Configuration section, which is saved in a configuration file. It cannot be written in the device. When a setting is uploaded from device, the relevant field in Device Configuration shows the device's serial number.
- (5) It is unavailable to write the calibration data ([DAC Trim], [Sensor Trim]), which is read from configuration, to the device.

Figure 12. File

🖤 M3LTOFG P	C Configurator	Ver1.0.1									
F.	Page		Read File		Write File			Upload		Download	
EXIC	1		Compare		All Copy <	<	>	>> All Copy		Compare	
Prop	perties		File Conf	iguratior	٦			Device Cor	nfigurat	ion	
Desc	ription	СНБ				<	>				CHG
Tag	g No.	СНБ				<	>				СНБ
Sensi Sensi	or type or wires	СНБ				<	>				СНБ
PV	unit										
PV upp	er range	СНС									СНА
PV low	er range						Ĺ				
PV d	amping	СНБ			Sec	<	>			Sec	СНБ
Burno	ut mode	СНБ				<	>				СНБ
CIC	switch	СНБ				<	>				СНБ
AO	type	СНС				<	>				CHG
AO upp	er range	CHC									CHC
AO low	ver range	Спа				Ù	Ĺ				Cha

6.2.1. MODIFYING PARAMETERS

Click [CHG] button at the left of each field to modify the parameter. Fields in which the parameter has been changed will be highlighted in light yellow background color. [CHG] buttons placed across multiple fields indicate that these parameters can be modified in single sequence.

When one parameter has been changed, related fields may be also affected. For example, when 'Sensor type' is modified, 'PV range' may be automatically changed.

Parameters can be copied between 'File Configuration' and 'Device Configuration' using [<] and [>] buttons. Copied fields will be highlighted in light yellow background color.

Using [All Copy <<] or [All Copy >>] buttons enables transferring all parameters between the sections. Copied fields will be highlighted in light yellow background color.

M3LTCFG P	C Configurator	Ver1.0.1						,			
Evit	Page		Read File		Write File			Upload		Download	
EXIC	1		Compare		All Copy <	<	>	> All Copy		Compare	
Prop	erties		File Config	guration	I			Device Cor	nfiguratio	on	
Desc	ription	СНБ	XI0203	327		<	>	XI020	0327		CHG
Tag) No.	СНБ	Tag Na	ame1		<	>	Tag N	ame2		СНБ
Senso	or type		Туре	PR				Тур	еК		
Senso	or wires	CHG	2 Wir	res		<	>	2 W	'ires		CHG
PV	unit		deg	зC				m	V		
PV upp	er range	CHC	1370.000		degC			1000.000		mV	CHC
PV low	er range		-270.000		degC			0.000		mV	СПО
PV da	amping	СНС	5.000		Sec	<	>	1.000		Sec	СНС
Burno	ut mode	СНБ	Downs	scale		<	>	Nor	ne		СНБ
CJC	switch	СНБ	CJC C	DFF		<	>	CJC	OFF		СНБ
											_
AO	type	СНБ	0 to 20) mA		<	>	0 to 2	:0 m.A		СНБ
AO upp	er range	CHC	20.000		mA			18.000		mA	CUC
AO low	er range	СПС	6.500		mA	<		4.000		mA	СНС

Figure 13. Parameters Modified

6.2.2. TRANSFERRING DATA TO/FROM DEVICE

Click [Upload] button to connect to the device, to read out its configuration data and to show it in 'Device Configuration' section on the screen (Figure 14). All background colors are back to the initial state.

'Description' indicates the serial number of the product, which cannot be modified or copied from 'File Configuration' section.

Click [Download] button to connect and write the configuration data in 'Device Configuration' fields to the device.

If an error occurs and downloading is stopped during the process, erred data field is highlighted in med pale red background color.

When the downloading is successfully complete, the configuration data is automatically uploaded and the background color returns to the initial state.

Figure 14. Data Uploaded, first page

🗊 M3LTOFG P	C Configurator	Ver1.0.1									
- Fuith	Page		Read File		Write File			Upload		Download	
Exit	1		Compare		All Copy <	<	>	> All Copy		Compare	
Prop	perties		File Conf	iguration	n			Device Cor	nfigurati	on	
Desc	ription	СНБ				<	>	XIO20	3327		СНБ
Taç	j No.	СНБ				<	>	Tag N	iame2		СНБ
			v								
Senso	or type							Тура	e PR		
Senso	or wires	CHG				<	>	2 W	ires		CHG
PV	unit							de	gC		
PV upp	er range	Cure I						1370.000		degC	-
PV low	er range	CHG						-270.000		degC	CHG
PV da	amping	СНБ			Sec	<	>	1.000		Sec	СНБ
Burnor	ut mode	СНБ				<	>	No	ne		СНБ
CIC	switch	СНБ				<	>	CJC	OFF		СНБ
AO	type	СНБ				<	>	0 to 2	:0 mA		СНБ
AO upp	er range	CHC						18.000		mA	CHC
AO low	ier range	CHG				Ś	~	4.000		mA	СПО

6.2.3. READING/WRITING FILES

Click [Read File] button to read the configuration data from a specified file and to show it in 'File Configuration' section on the screen (Figure 15). All background colors are back to the initial state.

Click [Write File] button to write the configuration data in 'File Configuration' section to a specified file.

A comment (max. 64 alphanumeric characters) can be entered in 'Description' in File Configuration section, which is saved in a configuration file. It cannot be written in the device. When a setting is uploaded from device, the relevant field in Device Configuration shows the device's serial number.

Figure 15. File Read Out

💞 M3LTOFG P	C Configurator	Ver1.0.1									
F .*	Page		Read File		Write File			Upload		Download	
Exit	1		Compare		All Copy <	<	>	> All Copy		Compare	
Prop	erties		File Confi	iguration	n			Device Cor	nfigurati	on	
Desc	ription	СНБ	XI020	0327		<	>	XIO20)327		СНБ
Tag	No.	СНБ	Tag N	lame1		<	>	Tag N	ame2		СНБ
								·			
Senso	or type		Туре	e PR				Туре	e PR		
Senso	r wires	CHG	2 W	/ires		<	>	2 W	ires		CHG
PV	unit		de	gC				de	gC		
PV uppe	er range		1370.000		degC			1370.000		degC	CHC
PV lowe	er range		-270.000		degC			-270.000		degC	
PV da	amping	СНБ	5.000		Sec	<	>	1.000		Sec	СНБ
Burnou	ut mode	СНБ	No	ne		<	>	Nor	ne		СНБ
	switch	СНБ		OFF		<	>	CJC	OFF		СНБ
AO	type	CHG	0 to 2	20 mA		<	>	0 to 2	0 mA		СНБ
AO upp	er range		20.000		mΑ			18.000		mΑ	
AO low	er range	CHG	6.500		mA	<		4.000		mA	СПС

6.2.4. COMPARING FILE TO DEVICE

You can compare the configuration data in 'File Configuration' fields and 'Device Configuration' fields.

Click [Compare] button in 'Device Configuration' fields to compare its data to those in 'File Configuration' fields. Deviations will be highlighted in med pale red background color.

Click [Compare] button in 'File Configuration' fields to compare its data to those in 'Device Configuration' fields. Deviations will be highlighted in med pale red background color.

Figure 16. Parameters Compared

💞 M3LTOFG P	C Configurator	Ver1.0.1	J								
	Page		Read File		Write File			Upload		Download	
Exit	1		Compare		All Copy <	<	>	> All Copy		Compare	
Prop	erties		File Confi	iguratio	n			Device Cor	figuratio	on	
Desc	ription	СНБ	XIO20	0327		<	>	XIO20)327		СНБ
Tag) No.	СНБ	Tag N	ame1		<	>	Tag N	ame1		СНБ
Senso	or type		Туре	e PR				Туре	e PR		
Senso	or wires	СНБ	2 W	ïres		<	>	2 W	ires		СНБ
PV	unit		de	gC				de	gС		
PV upp	er range		1370.000		degC			1370.000		degC	
PV lowe	er range	CHG	-270.000		degC			-270.000		degC	CHG
PV da	amping	СНБ	5.000		Sec	<	>	1.000		Sec	СНБ
Burnou	ut mode	СНБ	No	ne		<	>	Nor	ne		СНБ
CJC :	switch	СНБ	CC	OFF		<	>	CJC	OFF		СНБ
AO	type	СНБ	0 to 2	:0 mA		<	>	0 to 2	0 mA		СНБ
AO upp	er range		20.000		mA			20.000		mA	
AO low	er range	CHG	6.500		mA	<	>	4.000		mA	CHG

6.2.5. OPERATION EXAMPLE BY FILE MANAGEMENT

Operation procedure to change the configuration of the device with file management.

(1) Click [Read File] button to read the configuration data from a specified file

🗭 MSLTOFG P	C Configurator	Ver1.0.1									
	Page		Read File		Write File			Upload		Download	I
EXIC	1		Compare		All Copy <	<	,	> All Copy		Compare	
Prop	erties		File Conf	iguration	n n			Device Co	nfigurat	ion	
Desc	ription	CHG	X102	0327		<	>				CHG
Ta;) No.	CHG	Tag N	lame1		<	>				CHG
						_					
Sensi	or type	CHG	Тур	e PR							CHG
Senso	or wires		2 W	fires		<	>				
PV	unit	CHG	de	gC							CHG
PV upp	er range	ar	1760.000		degC						cur
PV low	er range	Gild	0.000		degC	Ĺ	Ĺ				Cina -
PV di	amping	CHG	5.000		Sec	<	>			Sec	CHG
Burno	ut mode	CHG	Ups	cale		<	>				CHG
CIC	switch	CHG	CIC	ON		<	>				CHG
								N.			
AO	type	CHG	0 to 2	20 mA		<	>				CHG
AO upp	ier range	arc	20.000		mA						eve
AO low	er range	Cifla	4.000		mA		Ĺ				0.16
		, <u> </u>									

(2) Click [Upload] button to connect to the device, to read out its configuration data.

🖤 MBLTOFG P	C Configurator	Ver1.0.1	15								
	Page		Read File		Write File			Upload		Download	
EXK	1		Compare		All Copy <	<	>	> All Copy		Compare	
Prop	ierties		File Confi	iguration	n			Device Cor	nfiguration	n	
Desc	ription	CHG	XIO20	3327		<	>	X102	3327		CHG
Taj	a No.	CHG	Tag N	lame1		<	>	Tag f	varn2		CHG
Sensi	or type	сна	Туре	∋ PR				Тур	∋ PR		CHG
Senso	or wires		2 W	ires		<	>	2 W	ires		
PV	unit	CHG	de	QC .				de	gC		CHG
PV upp	er range	CHG	1760.000		degC			1760.000		degC	cus
PV low	er range	Cito	0.000		degC	Ù	Ĺ	0.000		degC	
PV d	amping	CHG	5.000		Sec	<	>	1.000		Sec	CHG
Burno	ut mode	CHG	Upsi	cale		<	\rightarrow	Ups	cale		CHG
00	switch	CHG	CC	ON		<	>	CC	ON		CHG
1											
AO	type	CHG	0 to 2	0 mA		<	$\left \right\rangle$	0 to 2	10 mA		CHG
AO upp	ier range	ave	20.000		mA			20.000		mA	are
AO low	er range	CHG	4.000		mA	<u>`</u>	Ĺ	0.000		mA	CHG

(3) Click [Compare] button in 'File Configuration' fields to compare the data in the file and the data in the device. Deviations will be highlighted in med pale red background color.

	Page		Read File		Write File			Upload		Download	1
Exit	1		Compare		All Copy <	<	,	> All Copy		Compare	
Pro	perties		File Conf	iguration	n			Device Cor	figuratio	n	
De	cription	CHG	X102	0327		<	>	×1020	0327		CHG
Té	ag No.	CHG	Tag N	lame1		<	>	Tag N	Jam2		СНО
			1								_
Sen	sor type	CHG	Тур	e PR				Туре	9 PR		СНО
Sen	sor wires	GIN	2 W	lires		<	>	2 W	ires		Cit
P	V unit	CHG	de	gC				de	gC		СН
PV up	PV upper range		CHG 1760.000		degC			1760.000		degC	
PV los	ver range	Chig	0.000		degC	Ĺ	Ĺ	0.000		degC	Chi
PV	damping	CHG	5.000		Sec	<	>	1.000		Sec	CH
Burn	out mode	CHG	Ups	cale		<	\rightarrow	Ups	tale		CH
cJ	switch	CHG	00	ON		<	>	CJC	ON		СН
A	Otype	CHG	0 to 2	20 mA		<	>	0 to 2	0 mA		СН
AO up	iper range		20.000		mA			20.000		mA	
AO lo	wer range	CHG	4.000		mA	<	>	0.000		mA	CH

(4) Parameter can be copied from 'File Configuration' to 'Device Configuration' using [>] button. Copied fields will be highlighted in light yellow background color.

M3LTOFG P	G Configurator	Ver1.0.1	15								
5.4	Page		Read File		Write File			Upload		Download	j –
EAK	1		Compare		All Copy <-	<	>	> Al Copy		Compare	
Prop	perties		File Conf	iguration	n			Device Cor	nfigurat	ion	
Desc	ription	СНБ	XI02	0327		<	>	XI02	3327		CHG
Ta	g No.	СНБ	Tag N	lame1		<	>	Tag f	varn2		CHG
Sens	or type	CHG	Тур	e PR				Тур	∋ PR		CHG
Sensi	or wires		2 W	lires		<	>	2 W	ires		Crit
PV	unit	СНБ	de	QC				de	gC		CHG
PV upp	er range	ar	1760.000		degC			1760.000		degC	ar
PV low	er range	Chia .	0.000		degC	Ù	Ĺ	0.000		degC	CHS
PV d	amping	СНБ	5.000		Sec	<	>	5.000		Sec	CHG
Burno	ut mode	СНБ	Ups	cale		<	>	Ups	cale		CHG
cic	switch	СНБ	00	ON		<	>	COC	ON		CHG
AO	type	CHG	0 to 2	20 mA		<	>	0 to 2	10 mA		CHG
AO upp	er range	ar	20.000		mA			20.000		mA	ar
AO low	er range	urla	4.000		mA			4.000		mA	CHa

(5) Click [CHG] button at the left of each field to modify the parameter. Fields in which the parameter has been changed will be highlighted in light yellow background color.

🖗 MSLTOFG P	G Configurator	Ver1.0.1	15							E	
Evit	Page		Read File		Write File			Upload		Download	J
LAK	1		Compare		All Copy <-	<	>	> Al Copy		Compare	
Prop	perties		File Conf	iguration	n			Device Cor	nfigurat	ion	
Desc	ription	CHG	XI02	0327		<	>	XI02	020327		CHG
Ta	g No.	СНБ	Tag N	lame1		<	>	Tag f	Varn2		CHG
		[
Sens	or type	CHG	Тур	e PR				Тур	e PR		CHG
Sensi	or wires		2 W	lires		<	>	2 W	/ires		
PV	unit	CHG	de	QC				de	gC		CHG
PV upp	er range	ar	1760.000		degC			1760.000		degC	ar
PV low	er range	Cha	0.000		degC	Ĺ	Ĺ	0.000		degC	CHS
PV d	amping	CHG	5.000		Sec	<	>	5.000		Sec	CHG
Burno	ut mode	СНБ	Ups	cale		<	>	Ups	cale		CHG
CJC	switch	CHG	00	ON		<	>	COC	ON		CHG
AO	type	CHG	0 to 2	20 mA		<	>	0 to 2	20 mA		CHG
AO upp	er range		20.000		mA			18.000		mA	
AO low	er range	Crita	4.000		mA		ĺ,	4.000		mA	CHa
A0 bn	er range		4.000		mA			4.000	000 mA		L

(6) Click [Download] button to write the configuration data in 'Device Configuration' fields to the connected device. When the downloading is successfully complete, the configuration data is automatically uploaded and the background color returns to the initial state.

🖤 MSLTOFG F	C Configurator	Ver1.0.1									
	Page		Read File		Write File			Upload		Download	
EXX	1		Compare		All Copy <	<	>	> All Copy		Compare	
Pro	perties		File Conf	iguration	ı			Device Cor	nfigurati	on	
Des	ription	CHG	X102	0327		<	>	X1020	0327		CHG
Та	g No.	СНБ	Tag N	lame1		<	>	Tag N	lam2		CHG
j											
Sens	or type	046	Тур	e PR				Тур	e PR		CHG
Sens	or wires		2 W	/ires		<	>	2 W	ires		
P۱	unit	СНБ	de	gC				de	gC		CHG
PV upp	er range	~	1760.000		degC			1760.000		degC	~
PV low	er range		0.000		degC	Ĺ	Ĺ	0.000		degC	
PV d	amping	СНБ	5.000		Sec	<	>	5.000		Sec	CHG
Burno	ut mode	СНБ	Ups	cale		<	>	Ups	:ale		CHG
CIC	switch	CHG	CJC	ON		<	>	CJC	ON		CHG
j											
AC	type	CHG	0 to 2	20 mA		<	>	0 to 2	10 mA		CHG
AO up	ber range		20.000		mA			18.000		mA	
AO lov	ier range	CH6	4.000		mA	<		4.000		mA	CH6

7. DIAGNOSTICS

Click [Diagnostics] button to open the Diagnostics window as shown in Figure 17.

Figure 17. Diagnostics

💞 M3LTCFG PC Configurator Ver1.0.1										
M3LT Configurator	Device Mode	сом		PC	z/s	IRG	ORG		CFG	
Monitor	Device Status		во	ADC		AFX	AOS		PV	
Diagnostics	PV	F	∾ %		Ter	m.		AO		Functions
Execute diagnostics	1370	100			100			20 -		Connect
Read additional status	1200-		_		- - 80-			- -		Upload
Master reset device	-	80 - - -						16		Detailed Info
Additional Status	Ę									Analog Output
EEPROM SUM error (Basic)	800-							-		One Step Cal
EEPROM SUM error (Calibration Data)	=	- UU -			40			=		Trim DAC
EEPROM SUM error (Special Curve)								12-		
EEPROM SUM error (Summary)	400-	- 40 -						=		Septer Cal
EEPROM hardware error	E				n –			-		
						=	8.	8 -		Diagnostics
	<u> </u>	2	20 —							
	<u> </u>						_		Custom TC	
	_			16	-40	Ę (-		
	-270	20.11					4 –			
	59.85				24.12			7.22		File
	degC %				degC			mA		Language
Close Diagnostics	PV Graph	PV 9	% Graph		Term.	Graph		AO Gra	ph	Exit

Execute di	agnostics	Activates a diagnostics program and results are displayed in Ad- ditional Status.					
Read addi	tional status	Reads current contents of Additional Status from the device.					
Master reset device		Reset and restart the device without actually turning OFF/ON the					
		power supply.					
Additional	EEPROM SUM error (Basic)	Status is displayed: green in normal status, while red in error.					
Status	EEPROM SUM error (Calibration data)						
	EEPROM SUM error (Special Curve)						
	EEPROM SUM error (Summary)						
	EEPROM SUM hardware error						
Close Diag	gnostics	Close the window.					

8. LANGUAGE

Click [Language] button to open the Language window as shown in Figure 18. The user can select the display language of the M3LTCFG.

Figure 18. Language

🖗 M3LTCFG PC Configurator Ver1.0.1										
M3LT Configurator	Device Mode	сом		DIP	z/s	IRG	ORG		CFG	
Monitor	Device Status		во	ADC		AFX	AOS		PV	
Language	PV	F	∾V %		Tei	rm.		AO		Functions
Select language English	1370	100			100			20 -		Connect
	1200-		-		- - 80-			- - -		Upload
	Ē	8								Detailed Info
		- - 60 - - - - - 40 - - - - -			40			16 - -		Analog Output
	800 							-		One Step Cal
	-							- 17		Trim DAC
	400					_		-		
	400				_ _			- - -		Sensor Cal
					U		8 _		Diagnostics	
	<u>-</u> م	2	20 —			_		-		
			_					-		Custom TC
	-270 =		0		-4(4 -		
60.28		2	0.14		20.27			7.22		File
	degC				de	gC		mA		Language
Close Language	PV Graph	PV	% Graph	n]	Term.	Graph		AO Gra	ph	Exit

Click [Select language] to select the available language. The selected language is shown on the screen immediately. English is available in each language version of Windows, while Windows in your PC must support other language in order to display it.

Click [Close Language] to close the window.