Tecnologic 'KM' Series

UK Quick Programming Guide

*This guide should be used alongside the full engineering manual, appropriate to the instrument being used, where more detailed information can be found (download manual from **www.t-uk.co.uk**).*

Programming the Instrument

Tecnologic controllers are supplied with default programmable settings that may be suitable for your application. However we recommend that you go through the programming process, as incorrect programming could compromise its performance.

There are four possible ways of programming the KM range of controllers:

1. **Quick setting** - using 8 numbers derived from a parameter option list shown later in this document. ***If the options you require are not shown you will need to use either the basic or full menu options.***
2. **Basic menu** – Most standard options can be programmed here in a simple sequential parameter list.
3. **Full menu** - All programming options are here, split into sub-menus.
4. **Via software or memory KEY015-E** – Key plugs into controller and PC via USB.

Programming level pass numbers

300 - Quick setting using a 2 x 4 digit code.

81 - Basic menu with 10 second time out function.

40 – Full menu

Note: To reset instrument to factory default settings, press **P** for 5 seconds and dial in **-481.** Press **P** to confirm

Key

Exit/user definable button which can be used for navigation between menus. Holding down for 1 second will take you back one step. Holding down for 2 seconds will take you out of configuration.

Menu access/ confirm button can be used for entering or moving to the next parameter.

Up & down buttons used for increasing or decreasing values.

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Quick Setting Configuration Codes

The controller configuration (Input type, Control mode Alarms and Auxiliary functions) can be made by entering two 4-digit codes. You can work out the 2 relevant configuration codes using the tables below.

To work out code 1

Cod1

L	M	N	O

Input Type & Range		L	M
TC J	-50...+1000°C	0	0
TC K	-50...+1370°C	0	1
TC S	-50...+1760°C	0	2
TC R	-50...+1760°C	0	3
TC T	-70...+400°C	0	4
Infrared J	-50...+785°C	0	5
Infrared K	-50...+785°C	0	6
PT100 / PTC KTY81-121	-200... +850°C/ -55...+150°C	0	7
PT1000 / NTC 103-AT2	-200... +850°C/ -55...+110°C	0	8
Linear 0...60mV		0	9
Liner 12...60mV		1	0
Linear 0...20mA (this selection forces out 4=TX)		1	1
Linear 4...20mA (this selection forces Out 4=TX)		1	2
Linear 0...5V		1	3
Linear 1...5V		1	4
Linear 0...10V		1	5
Linear 2...10V		1	6
TC J	-58...+1832°F	1	7
TC K	-58...+2498°F	1	8
TC S	-58...3200°F	1	9
TC R	-58..+3200°F	2	0
TC T	-94..+752°F	2	1
Infrared J	-58..+1445°F	2	2
Infrared K	-58..+1445°F	2	3
PT100 / PTC KTY81-121	-328...+1562°F/ -67...+302°F	2	4
PT1000 / NTC 103-AT2	-328...+1562°F/ -58...+230°F	2	5

Control Mode	OP1	OP 2	OP 3	OP 4	N	O
ON/OFF heating = H	H	AL1	AL2	AL3	0	0
	NU	AL1	AL2	H	0	1
ON/OFF cooling = C	C	AL1	AL2	AL3	0	2
	NU	AL1	AL2	C	0	3
ON/OFF with neutral zone (H/C)	H	C	AL2	AL3	0	4
	H	AL1	AL2	C	0	5
	C	H	AL2	AL3	0	6
	NU	H	AL2	C	0	7
	C	AL1	AL2	H	0	8
	NU	C	AL2	H	0	9
PID heating =H	H	AL1	AL2	AL3	1	0
	NU	AL1	AL2	H	1	1
PID cooling =C	C	AL1	AL2	AL3	1	2
	NU	AL1	AL2	C	1	3
PID double action (H/C)	H	C	AL2	AL3	1	4
	H	AL1	AL2	C	1	5
	C	H	AL2	AL3	1	6
	NU	H	AL2	C	1	7
	C	AL1	AL2	H	1	8
	NU	C	AL2	H	1	9

Entering the codes

Press ↵ and then enter the pass code, 300.
Press ↵ again. You can now enter in code 1.
Press ↵ and enter code 2 in.
The screen will then flash is code is accepted or not.

To work out code 2

Cod2

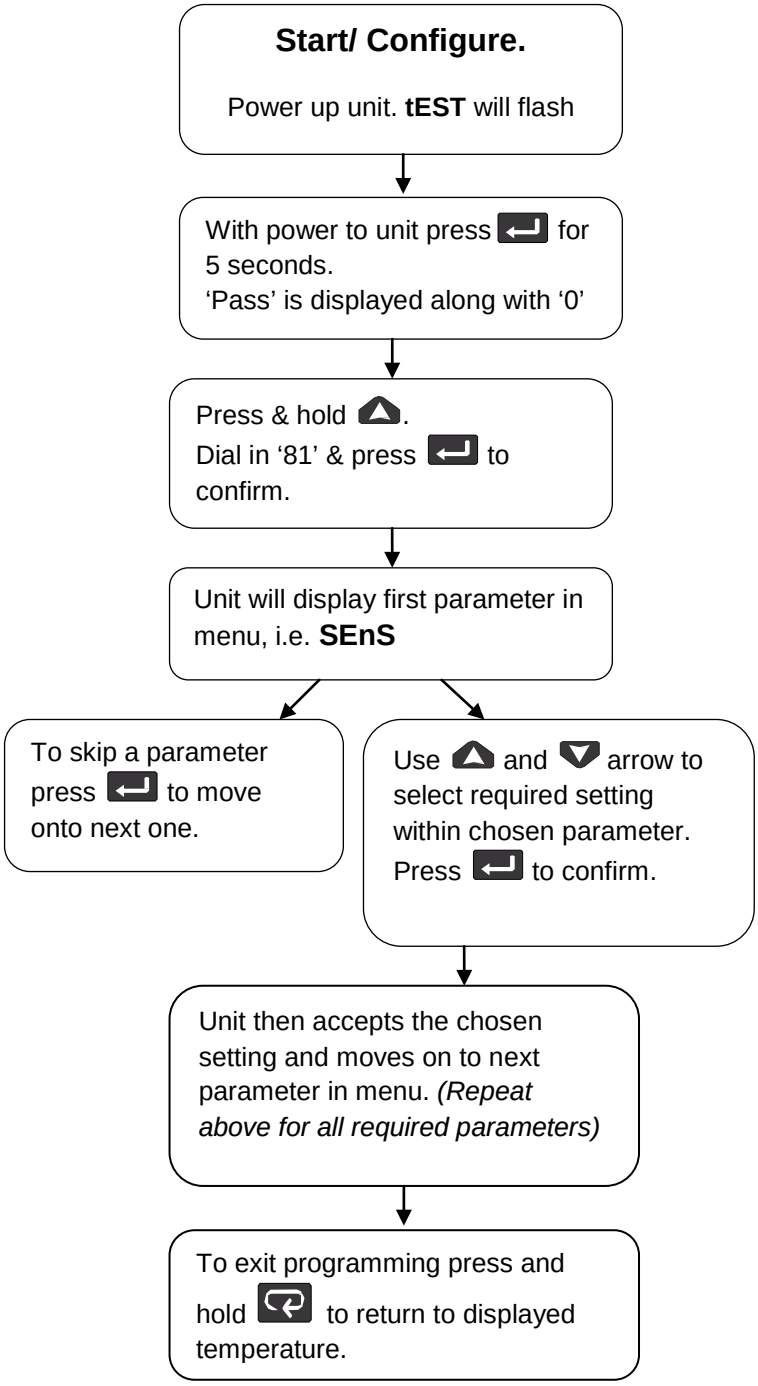
P	Q	R	S

Alarm 3				R
Alarm 2			Q	
Alarm 1		P		
Not used		0	0	0
Sensor break		1	1	1
Absolute	High	2	2	2
	Low	3	3	3
Absolute High/Low	External High/Low	4	4	4
	Internal High/ Low	5	5	5
Deviation	Deviation High	6	6	6
	Deviation Low	7	7	7
Band	External Band	8	8	8
	Internal Band	9	9	9

Auxiliary functions activation	S
None	0
Wattmeter (instantaneous power expressed in W)	1
Wattmeter (energy expressed in Wh)	2
Absolute worked time (expressed in days)	3
Absolute worked time (expressed in hrs)	4

Navigating the basic level programming guide

This is a blueprint guide for changing all the parameter settings on the instrument within the 81 basic menu.



81 Basic parameter menu

Display	Parameter name/ description	Manual ref.
SEnS	Sensor/ input type	[1]
dP	Decimal point position	[2]
unit	Engineering Unit	[5]
o1F	Output function 1	[13]
o2F	Output function 2	[18]
o3F	Output function 3	[21]
o4F	Output function 4	[24]
cont	Control type	[55]
Auto	Auto tuning for PID parameters	[56]
Pb	Proportional band value (°C)	[61]
ti	Integral time	[62]
td	Derivative time	[63]
Fuoc	Fuzzy overshoot control	[64]
tcH	Heating output cycle time	[65]
SPLL	Min. adjustable set point value	[76]
SPHL	Max. adjustable set point value	[77]
SP	Control set point	[78]
AL1t	Alarm 1 type/function	[27]
AL2t	Alarm 2 type/function	[35]
AL3t	Alarm 3 type/function	[43]
di.cL	Display colour	[122]
io4.F	Input/ Output 4 function	[9]

Note: *Some parameters will disappear and/or additional parameters will appear depending on settings selected. If the advanced menu is required use the 40 pass code & select appropriate menu using the key. Please refer to the main manual.*

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