Process controller with Modbus Master/Slave
1/8 DIN – 48 x 96
X5 line

82 SERIES
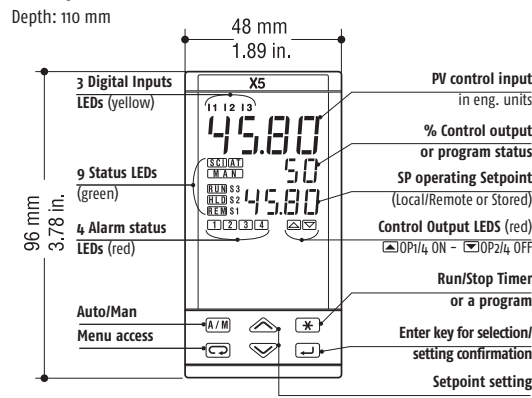
Quick Guide • ISTR-FX5ENG02

CE

ASCON TECNOLOGIC

viale Indipendenza 56, 27029 – Vigevano (PV)
Tel.: +39 0381 698 71, Fax: +39 0381 698 730
internet site: www.ascontecnologic.com
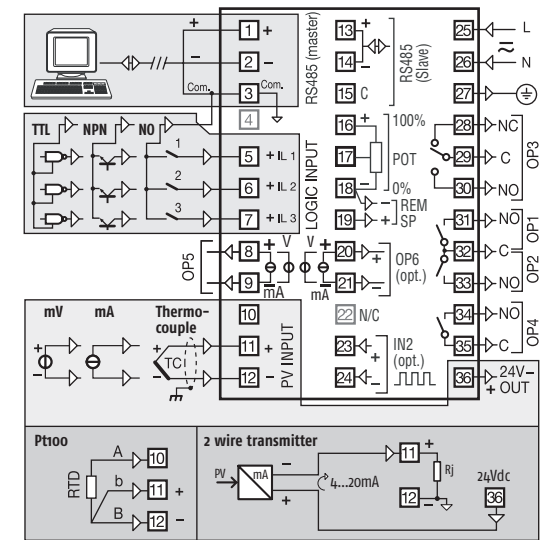E-mail: sales@ascontecnologic.com

Declaration of Conformity and Manual retrieval

X5 is panel mounting, Class II instrument. It has been designed with compliance to the European Directives.
All information about the controller use can be found in the User Manual: **MIU_X5_EN.pdf**.
The Declaration of Conformity and the manual of the controller can be downloaded (free of charge) from the web-site:
www.ascontecnologic.com
Once connected to the web-site, search:
X5
then click on **X5** from the result list.
In the lower part of the product page (in any language) is present the download area with links to the documents available for the controller (in the available languages).
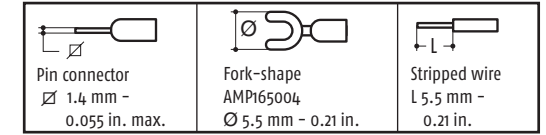
⚠ Warning!

– Whenever a failure or a malfunction of the device may cause dangerous situations for persons, things or animals, please remember that the plant must be equipped with additional devices which will guarantee safety.
– We warrant that the products will be free from defects in material and workmanship for 18 months from the date of delivery. Products and components that are subject to wear due to conditions of use, service life and misuse are not covered by this warranty.

Description and dimensions

Depth: 110 mm

48 mm
1.89 in.

96 mm
3.78 in.

- 3 Digital Inputs LEDs (yellow)
- 9 Status LEDs (green)
- 4 Alarm status LEDs (red)
- Auto/Man
- Menu access
- PV control input in eng. units
- % Control output or program status
- SP operating Setpoint (Local/Remote or Stored)
- Control Output LEDS (red) OP1/4, ON – OP2/4 OFF
- Run/Stop Timer or a program
- Enter key for selection/ setting confirmation
- Setpoint setting

Panel cut out and mounting

45⁺⁰·⁶ mm
1.78⁺⁰·⁰²³ in.

92⁺⁰·⁸ mm
3.62⁺⁰·⁰³¹ in.

Electrical connections

Terminals

Pin connector
∅ 1.4 mm – 0.055 in. max.

Fork-shape AMP165004
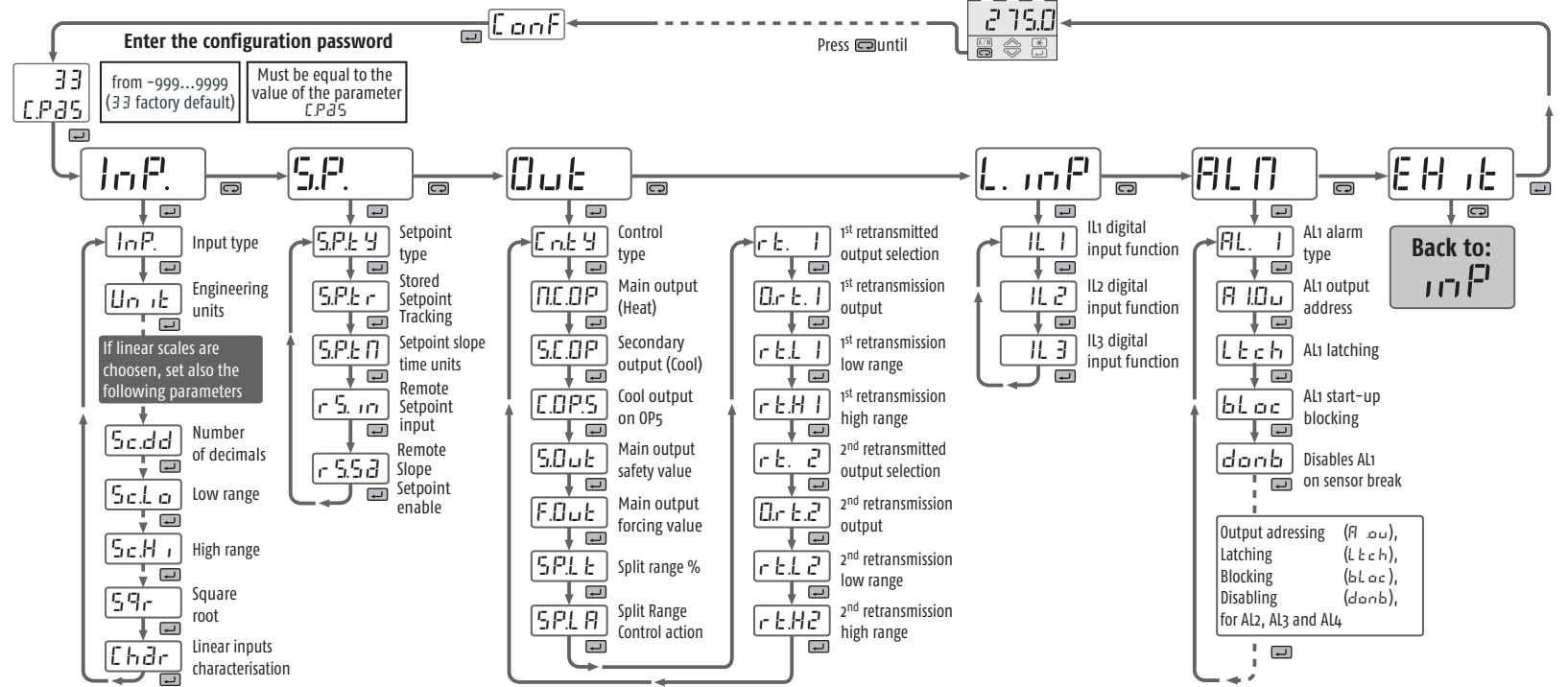∅ 5.5 mm – 0.21 in.

Stripped wire L 5.5 mm – 0.21 in.

Model Code

The product code indicates the specific hardware configuration of the instrument, that can be modified by specialized engineers only.
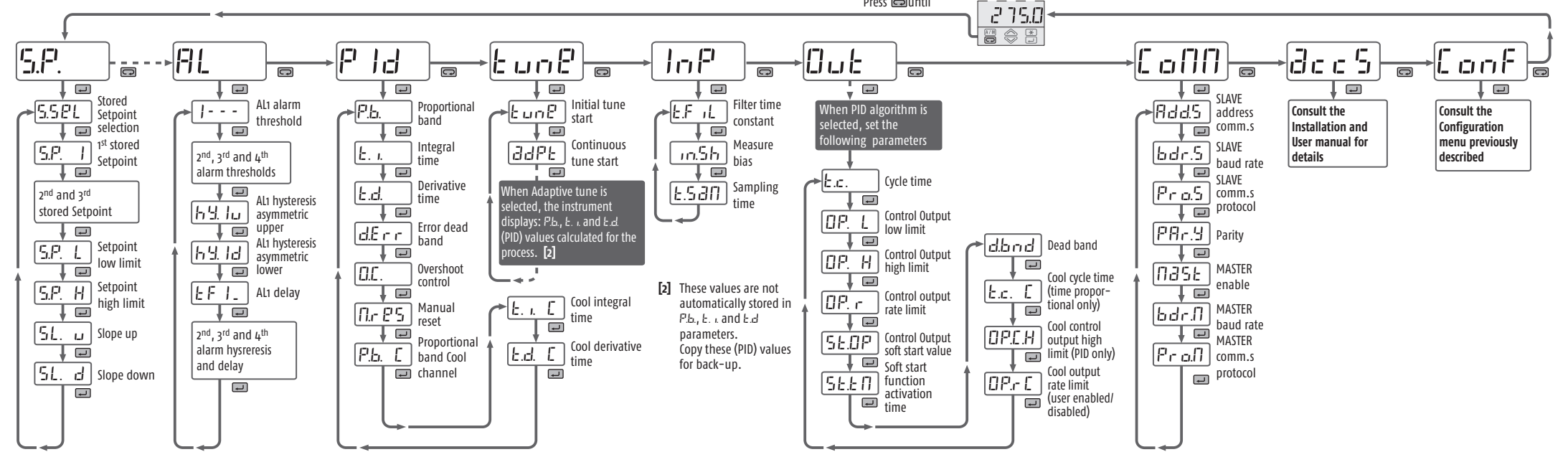
Model: **X 5 A 1 C D - E 9 0 0**
(Line / Basic / Accessories)

Line	**X 5**
Power supply	**A**
100…240Vac (–15…+10%)	3
24Vac (–25…+12%) or 24Vdc (–15….+25%)	5
Serial Communications	**C**
None	0
Mathematical package (MP)	1
RS485 Modbus/Jbus + MP	5
RS485 Modbus/Jbus SLAVE + MASTER + MP	6
Options	**D**
None	0
Frequency input + OP6	6
Setpoint Programmer [1]	**E**
Not fitted	0
4 programs with 16 segments	4

[1] Not available with split range control mode.

Configuration menu

Parameterisation menu

Parameter list

The parameters pointed out with grey background are those necessary to configure the options and are NOT shown in the menus. All the parameters are fully described and explained in the user manual of the controller.

Configuration

Code	Parameter Name	Value Default	User
InP.	Input type selection	0 – 10	
Unit	Engineering units	NONE	
Scdd	Number of decimals (0… 3)	0	
Sclo	Low range	0	
ScHi	High range	9999	
Sqr	Square root (0 = OFF, 1 = ON)	NO	
CHar	Linear input characterization	NO	
SPty	Setpoint type	LOC	
SPtr	Stored Setpoint tracking	NO	
SPtn	Time units and Setpoint slope	P.SEC	
rS.In	Remote Setpoint input	4 – 20	
rSSd	Remote Setpoint Slope enable	NO	
Cnty	Control type	PID	
nC.OP	Main output (Heat)	OFF	
SC.OP	Secondary output (Cool)	OFF	
C.OP5	Cool output on OP5 (Heat/Cool only)	NO	
S.Out	Main output safety value	OFF	
F.Out	Main output forcing value	OFF	
SPLt	Split range % (split range only)	50	
SPLA	Split Range Control action	dir	
rt._	nth retransmitted output selection	none	

Code	Parameter Name	Value Default	User
Ort._	nth retransmission output	4–20	
rtL._	nth retransmission low range	0	
rtH._	nth retransmission high range	9999	
IL_	ILn digital input function	OFF	
AL._	ALn alarm type	OFF	
A.Du_	ALn addressing	OP1	
Ltch	ALn latching	no	
bLoc	ALn start-up disabling	no	
donb	Disables ALn on sensor break	no	

Parameterisation

Code	Parameter Name	Value Default	User
S.SPL	Setpoint selection	NONE	
SP._	nth stored Setpoint	0	
SP.L	Setpoint low limit	PV.LO	
SP.H	Setpoint high limit	PV.HI	
SL.u	Setpoint ramp up	OFF	
SL.d	Setpoint ramp down	OFF	
rSSL	Remote setpoint slope enable	OFF	
rt.io	Ratio remote Setpoint	1.00	
bia5	Remote Setpoint Bias	0	

Code	Parameter Name	Value Default	User
Program parameters (consult the Installation and user manual for details)			
1.__	AL1 alarm threshold	0	
2.__	AL2 alarm threshold	0	
3.__	AL3 alarm threshold	0	
4.__	AL4 alarm threshold	0	
hy.u	ALn alarm hysteresis Up	1.0	
hy.d	ALn alarm hysteresis Down	1.0	
tF._	ALn delay	1	
Pb.	Proportional band	5.0	
t.i.	Integral time	60	
t.d.	Derivative time	12.0	
dErr	Error Dead Band	OFF	
OC.	Overshoot Control	1.00	
nrES	Manual Reset	50.0	
Pb.C	Cool proportional band	5.0	
t.i.C	Cool integral time	60	
t.d.C	Cool derivative time	12.0	
tunE	Start/Stop One shot tuning	NO	
AdPt	Start/Stop Adaptive tuning	NO	
tF.iL	Input filter	OFF	
In.Sh	Input shift	OFF	
t.SAn	Sampling time	0.1	

Code	Parameter Name	Value Default	User
OPhy	Output Hysteresis	1	
t.c.	Cycle time	10.0	
OP.L	Control ouput low limit	0.0	
OP.H	Control output high limit	100.0	
OPr	Control output maximum speed	OFF	
St.OP	Soft start output high value	OFF	
St.tn	Soft start time	10	
nut.n	Servomotor travel time	60	
nuhy	Output minimum step Servomotor	0.5	
dbnd	Heat/Cool Dead band	0.5	
tc.C	Cool cycle time	10.0	
OP.CH	Cool output maximum value	100.0	
OPrC	Cool output maximum speed	OFF	
AddS	Communication SLAVE address	1	
bdr.S	SLAVE Baud rate	9600	
Pro.S	SLAVE Communication protocol	JBUS	
PAr.y	Parity	NONE	
nASt	Enable MASTER	NO	
bdr.n	MASTER Baud rate	9600	
Pro.n	MASTER Communication protocol	JBUS	