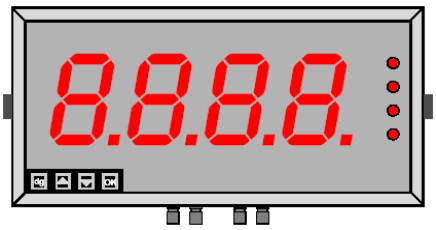
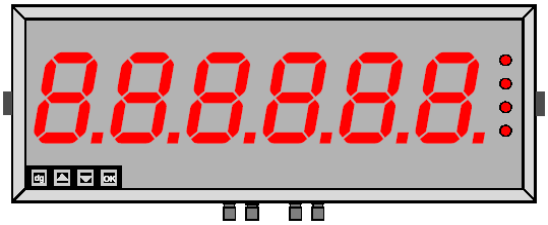
DISP-FPXX SERIAL

LARGE DIGIT SERIAL SLAVE INDICATOR / CONTROLLER



DISP-FP4x (4 digits)



DISP-FP6x (6 digits)

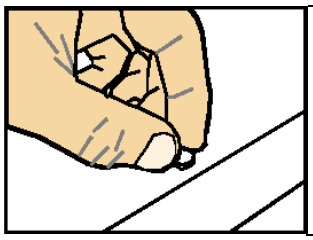
Rev.	Date	Reason
1	12/11/2015	Correction of the §4.1.1

1. WARNINGS

Please carefully read this manual and all warnings. Install the display ONLY when you are sure that you've covered all aspects.

Where the product is intended for "UL" installations, removal or addition of option boards is not permitted.
Check that the model number and supply voltage suit your application before you install the display.
Don't touch any circuit try after you have connected the display, because there may be lethal voltages on the circuit board.
Do not apply power to the display if its case is open.

Connect the display according to current IEE regulations, IEC61010 & NFPA: 70 National Electric Code in USA.
Power supplies to this equipment must have anti-surge (T) fuses rated at 1A for 230V supply, 2A for 110V supply or 10A for DC supplies in the range 11-30VDC.
Only adjust on-board switches or connections with the power turned off
Make sure all screw terminals are tight before you switch the meter on.
Only clean the display's case and window with a soft damp cloth. Only lightly dampen with water. Do not use any other solvents.



Rear case screws - please note

The rear panel is held in place with finger-screws, which only need to be gently tightened. **Do not use tools to tighten or loosen the screws, as this could cause damage to the internal threads**

Safety First .....Don't assume anything..... Always double check.
If in doubt, ask someone who is QUALIFIED to assist you in the subject.

2. INTRODUCTION

Please contact us if you need help, if you have a complaint, or if you have suggestions to help us improve our products or services. If you contact us about a product you already have, please tell us the full model number and serial number, so that we can give you accurate and fast help. If you return a unit for repair, please include a detailed description of the problem, and the name of a contact that we can refer to for any questions. Please mark for the attention of the QA Department.
Important: If this equipment is important to your process, you may want to buy a spare to cover possible failure or accidental damage in the future.

This is because during factory shutdown periods, you may have to wait several weeks for an equivalent replacement, or we may have no stock at the time you urgently need it. You may also need to pay extra carriage charges if you want a fast, guaranteed courier service. Warranty repairs or replacements are usually returned with a standard courier service. We do not offer compensation for losses caused by failure of this instrument. We thought you'd prefer to know about possible delays and extra charges now, rather than during a panic. A spare unit could help to avoid these issues.
We always try to improve our products and services, so these may change over time. You should keep this manual safely, because future manuals, for new designs, may not describe this product accurately. We believe these instructions are accurate, and that we have competently designed and manufactured the product, but please let us know if you find any errors.

3. GENERAL DESCRIPTION

The main function of this series is to give a clear numeric readout of the variable being monitored. Various digit heights are available, to suit the maximum viewing distance required in each installation. For every 10 meters of viewing distance required, use 1" (2,54cm) of digit height.
Various optional output modules are also available to give alarm relay outputs, analogue output or digital communications, or any combination of these options.
Displays are programmed using front panel pushbuttons. The front panel buttons can be disabled. In addition, you can connect 4 remote wired pushbuttons to the display, so that you can make adjustments while the display is mounted in an inaccessible location.
Displays have three power supply options: 100-240 VAC, 48 VAC or 11-30VDC
These displays must be installed fully assembled, and must be installed according to local electrical installation rules. When properly installed, and provided they have been ordered with cable glands exiting the lower surface of the case, they provide ingress protection to IP65 / NEMA4X from all directions.

Caution: There is a risk of electrical shock if this instrument is not properly installed

Caution: Risk of danger: Read the whole manual before you install this display

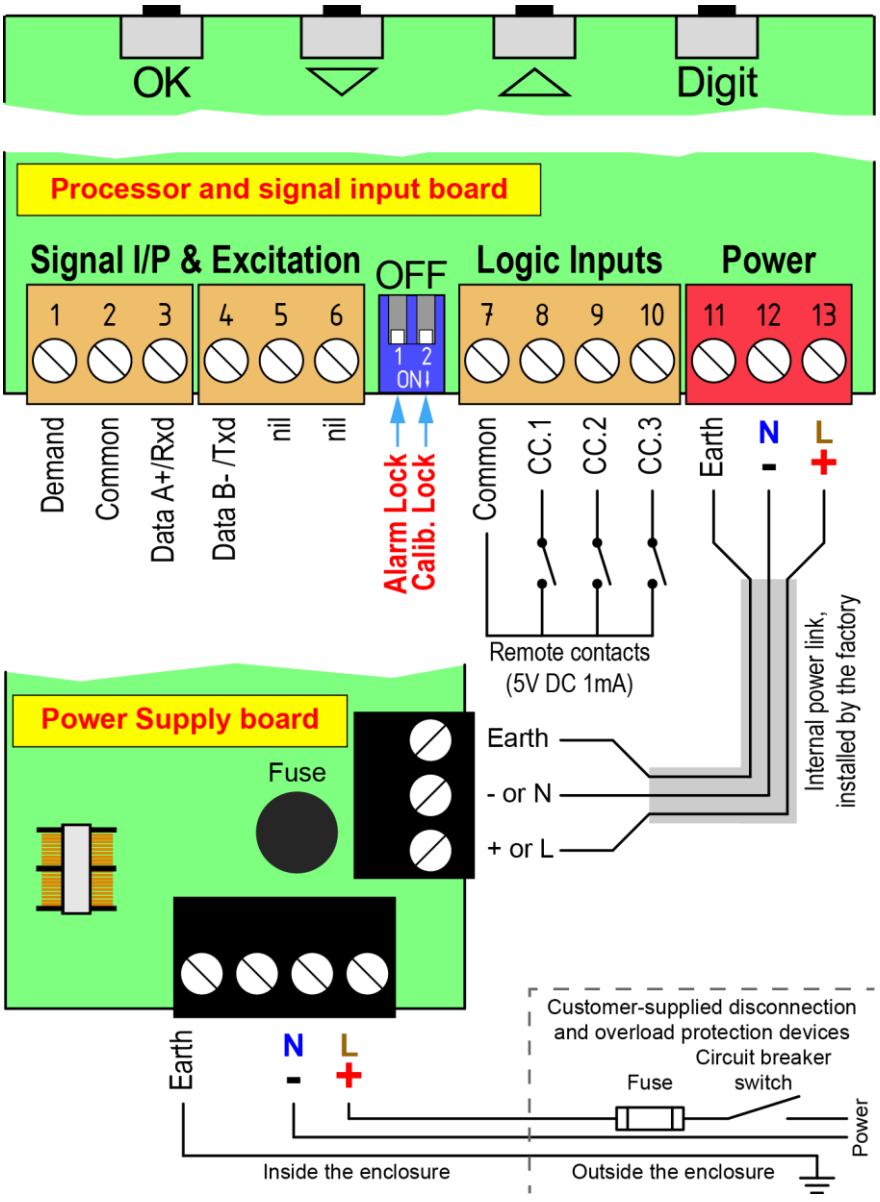
Obey all safety warnings in this manual, and install the display according to local wiring and installation regulations. Failure to follow these guidelines may cause damage to the display, connected equipment, or may be harmful to personnel.
Any moving mechanical device controlled by this equipment must have suitable access guards to prevent injury to personnel if the display should fail.

4. CONNECTIONS

4.1. Power board and signal

Warning: Disconnect all power before removing the rear of the display

There is a wide range of possible locations for the input board, output board and power supply board/s. Their locations depend on the height of digits, number of digits, brightness of digits and any installed options. Because the permutation of possible locations is large, we will not describe the location of boards within the display, but simply identify the connectors and their functions on each board, below ...



4.1.1. Connecting the DISP-FPxx serial with another SENSY display

Warning: Disconnect all power before removing the rear of the display

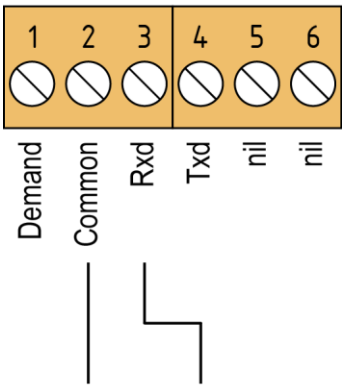
The DISP-FP serial can be used as slave to repeat the value displayed on an INDI- or DISP-PAXx display or an INDI- or DISP-BOYx load limiter.

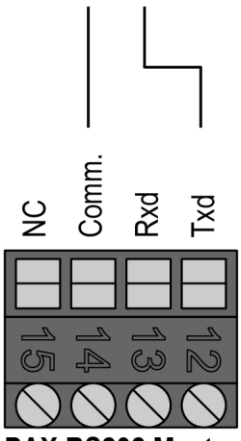
RS232 should be used over short distance only, preferably under 10 meters of cable length.

Example of configuration. See 0 Serial data settings for more information

RS485 can be used over cable lengths from 0 to over 1000 meters of cable length.

FPxx RS232 Slave





PAX RS232 Master

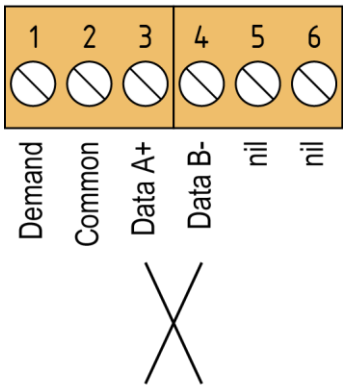
Input settings on slave

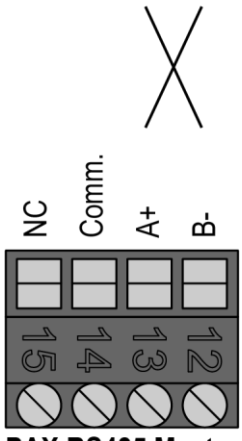
Mode=OuAnt
Addr.00
S.Chr.00
E.Chr.0d
bAud 9.6
dFnBn 1
trEP.05
c.Chr.00
to.05
S.P05.00
dLEn.00
dddddd
dPA

Output settings on master, menu 7-SrL:

bAud 9600
dAtA 8
Addr 1
Abru YES
OPt YES
Bro55 NO
tArE NO
InP YES
tot NO
HILO NO

RS485 Slave





PAX RS485 Master

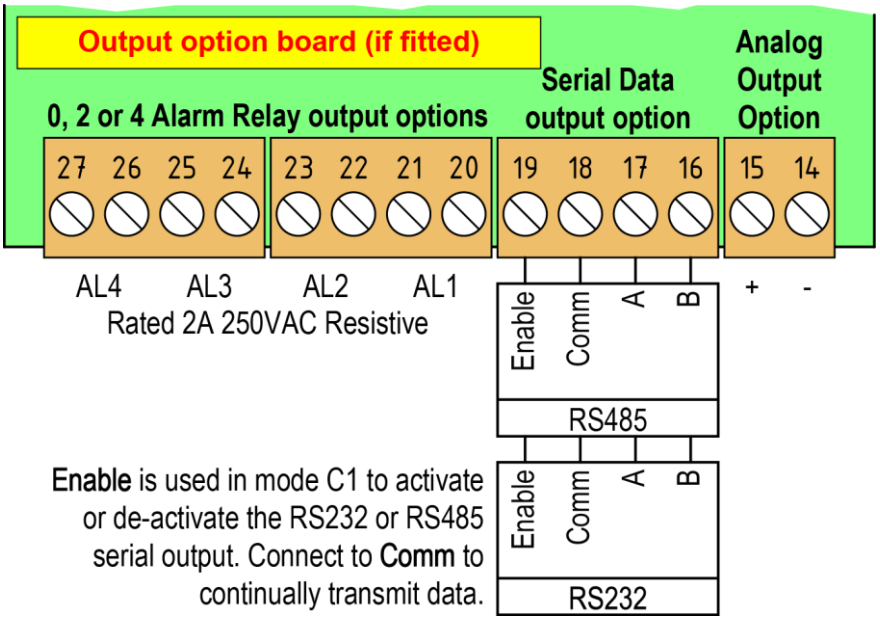
Furthermore, it is needed to configure the **USr-1** parameter (menu **2-FnC**) to **Pr int** and wire the User 1 and User Comm. Terminals together.

To connect two displays DISP-FP as master/slave, follow the instructions from *12.4 Connecting master and slave displays over RS232 or RS485.*

4.2. Optional output board

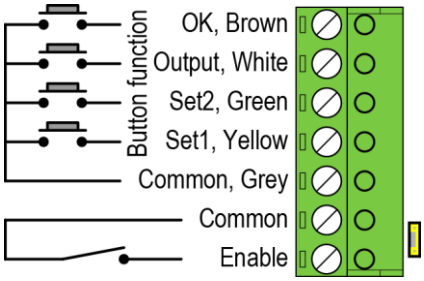
Warning: Disconnect all power before removing the rear of the display

Connectors and options: Connectors may be present even if output options are not installed. Refer to rating label to see installed options.



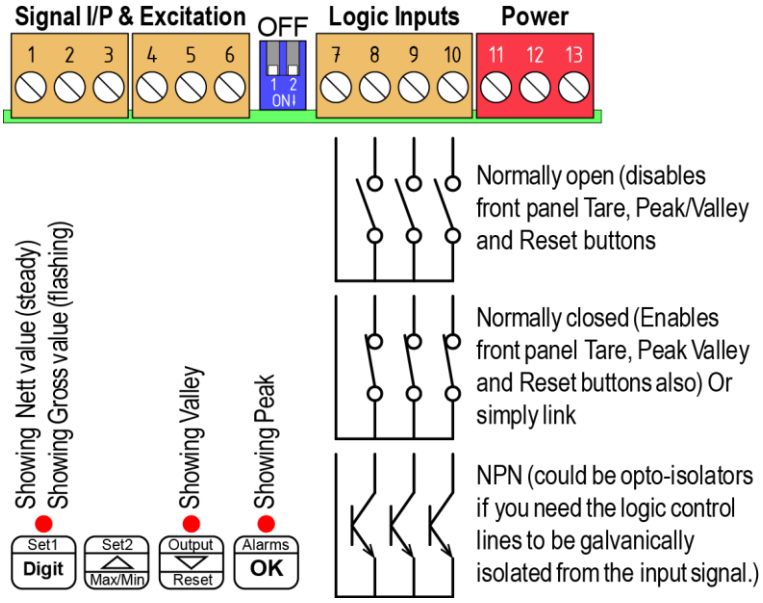
4.3. Remote programming button connector

On one of the display boards, you will find a 7 way connector, to which you can wire remote programming buttons, to allow adjustment of the display's settings when the display is inaccessible.
You can also enable or disable the display's front panel buttons, either by a remote contact closure, or by an on-board push-on jumper switch, which is located near to the remote button connector. When the contact is closed, or the push-on switch fitted, the front buttons are enabled.



4.4. Logic input connections and front buttons

You can connect remote contact closures or open NPN collectors to activate the logic inputs. The logic input provides a 5V DC signal. When you connect this to common, a current of 1mA will flow. Because this is a small signal, we recommend you use switches with gold plated contacts, or self-cleaning contacts, for best long term reliability. The logic inputs are not galvanically isolated from the input signal and are only activated when the lockout switch is ON.



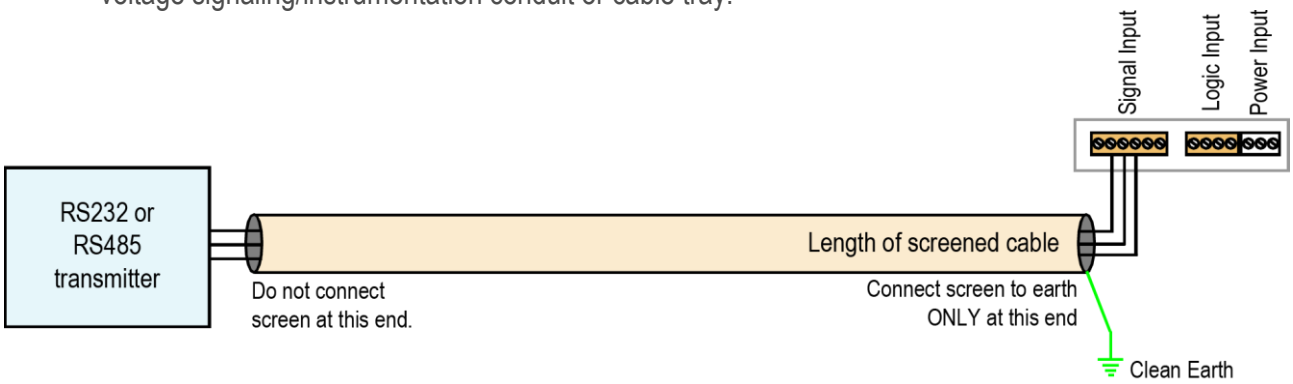
4.5. Installation hints for best performance

This section offers several suggestions which will help you get the best performance from your system.
RS232 and RS485 use comparatively small signals which can easily be corrupted by the potentially high level of electrical noise which can be created by electrical machinery such as motors, welding systems, discharge lighting, AC power inverters and solenoids. These steps will ensure you get the best possible performance from your system.
RS232 has limited capability over long cable distances, due its low driving power (which causes the signal to reduce in level as cable length increases) and single ended signal (which is prone to interference by local electrical noise) , as shown below...
Maximum recommended cable distances if using LOW capacitance screened cable such as CAT5 cable.

Baud Rate	RS232	RS485 or RS422
1200	50m	1200m
9600	20m	150m
19200	10m	75m
38400	5m	30m
115200	2m	10m

1. Use good quality screened signal cable, with twisted pairs. Screened twisted pair CAT5 cable is ideal. The screen should be earthed at the display end only.

2. If you are using multi-pair twisted cable, each pair should be dedicated to a single display as shown opposite, for maximum noise immunity. This will ensure that any electrical noise induced in the cable is properly cancelled. Mixing destinations carelessly amongst the twisted pairs can easily corrupt data.
3. The cable should be routed away from noisy wiring and devices such as power feeds from inverters, discharge-lighting cables, welder cabling etc., and should preferably be routed in a dedicated low voltage signaling/instrumentation conduit or cable tray.



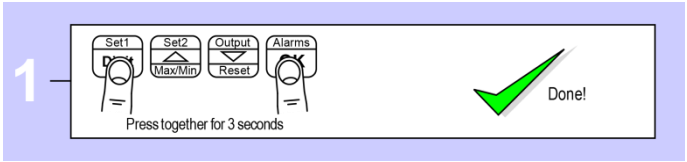
Sender connections Display connections

When using multi-core screened cable to connect several displays to several data sources, please be sure to use one twisted pair for each display and sensor.
Do NOT use a wire from one pair for signal positive and a wire from another pair for signal negative, as this will prevent the twisted cables form cancelling any induced electrical noise, and can couple noise from one source to another.

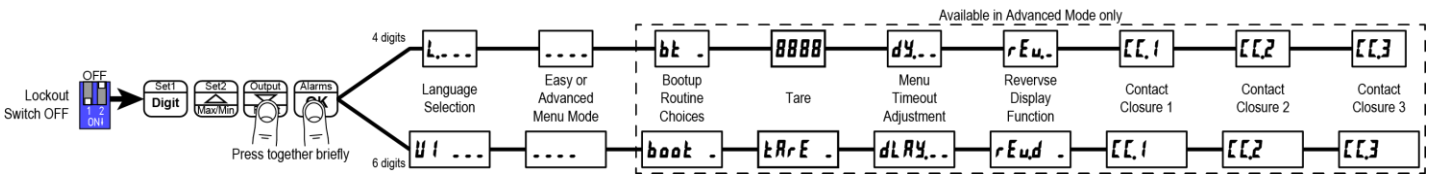
5. PROGRAMMING THE DISPLAY

5.1. Calibration audit number

Your display includes a non-resettable counter which increments each time you make a change to the display's calibration. This is useful if you want to check whether a display has been altered since it was last calibrated.
The Calibration audit number starts at CAL 01 up to CAL FF allowing up to 255 alterations to be recorded. Whenever you want to check the calibration audit number, press and hold the 2 outer buttons (Set1 + Alarms) for more than 3 seconds.



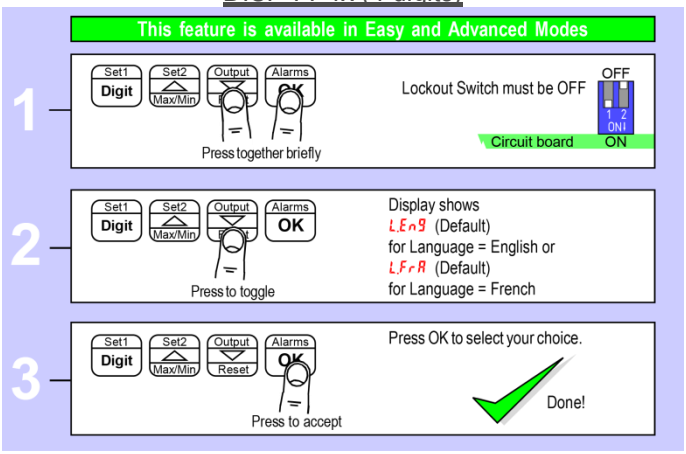
5.2. Display functions



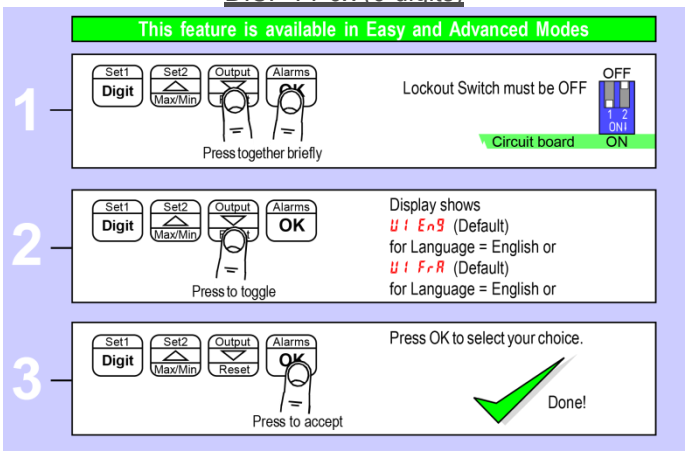
5.2.1. Language selection for user interface

You can select English or French menu prompts. (This manual is written for menus in English)

DISP-FP4x (4 digits)



DISP-FP6x (6 digits)



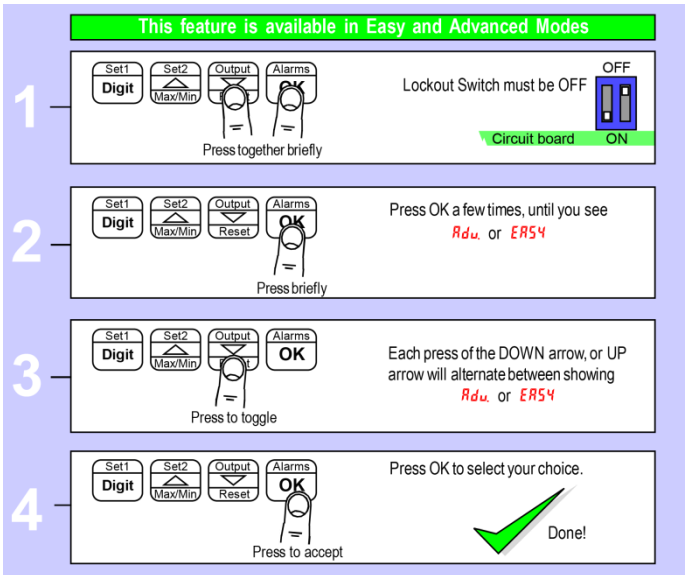
5.2.2. Easy or Advanced menu mode

You can choose from two menu modes.

1. Easy Mode - This limits the menu to the most commonly required features, in order to make it less complex and easier to navigate. This is the default level.
2. 2. Advanced Mode - This gives you access to all available menu features.

Each menu feature in this manual has a heading note to tell you whether it is available in Easy or Advanced mode.

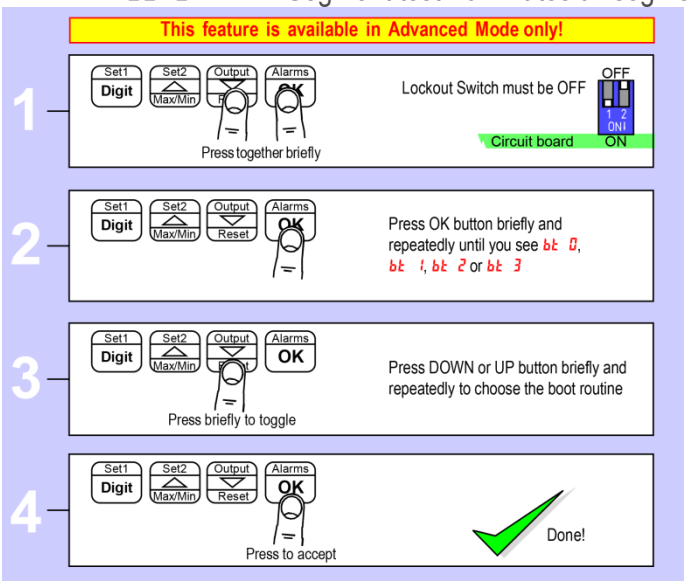
How to choose menu mode:

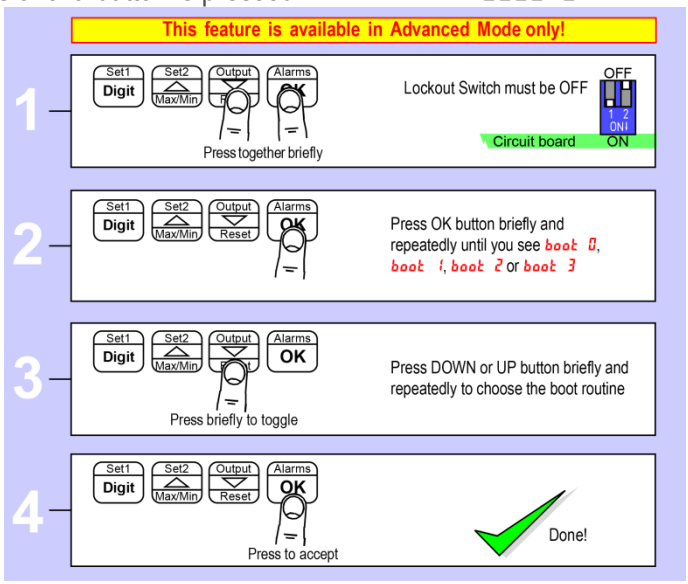


5.2.3. Bootup routine choices

When you switch on your meter, it can be set to power up with 3 possible summary message combinations. The choices are:

4 digits		6 digits
bt 0	Segment test, followed by a full summary of software revision, calibration audit number, model number, installed options.	boot 0
bt 1	Segment test followed by model number (Default)	boot 1
bt 2	No summary, meter displays the measurement value immediately power is applied.	boot 2
bt 3	Segment test illuminates all segments until a button is pressed.	boot 3

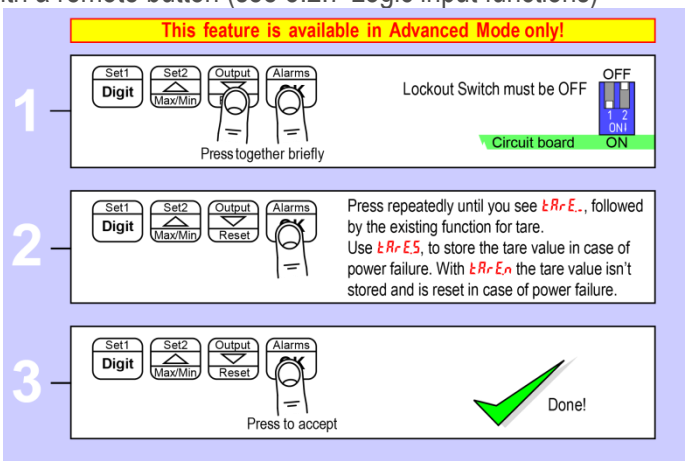




You can trigger the full summary message whenever you want, without having to power the meter off, by pressing and holding the 2 outer buttons (Set1 + Alarms) for more than 3 seconds.

5.2.4. Tare

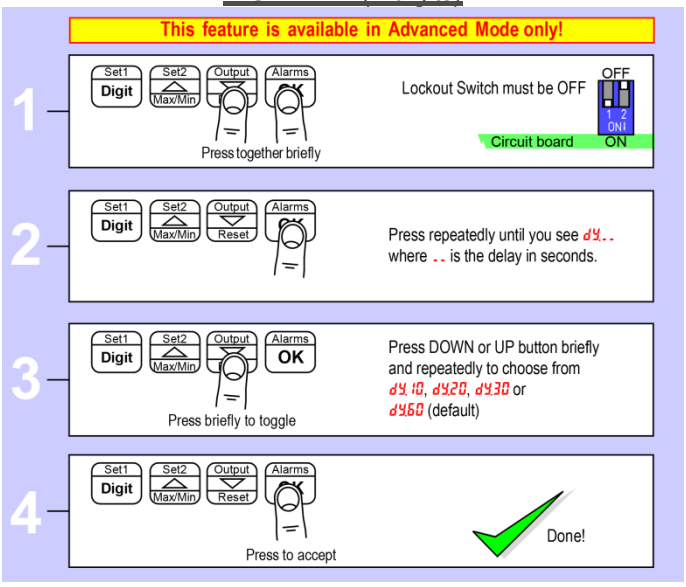
The display can be tare with a remote button (see 5.2.7 Logic input functions)



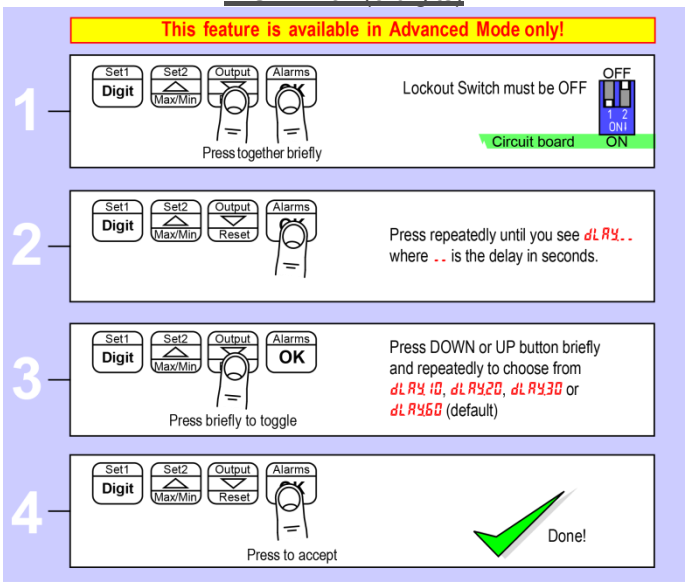
5.2.5. Menu timeout adjustment

The display has a default timeout of 60 seconds, to allow you sufficient time to refer to the manual between key operations. You can make this period shorter, if you wish, once you become more familiar with the setup method.

DISP-FP4x (4 digits)



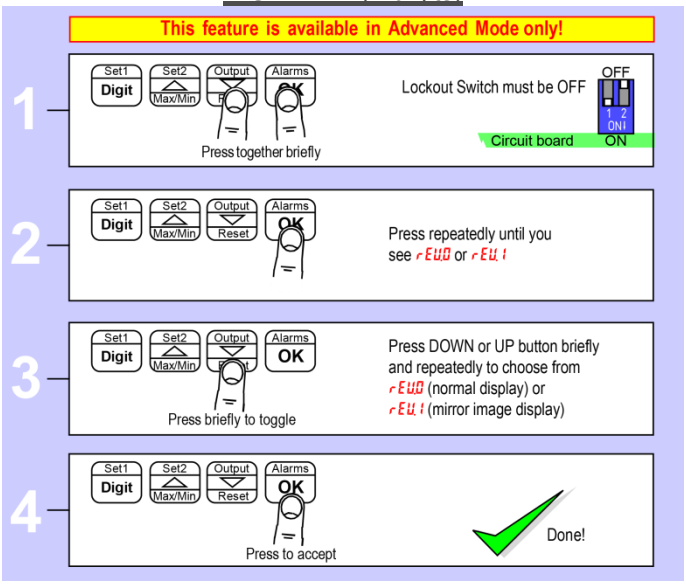
DISP-FP6x (6 digits)



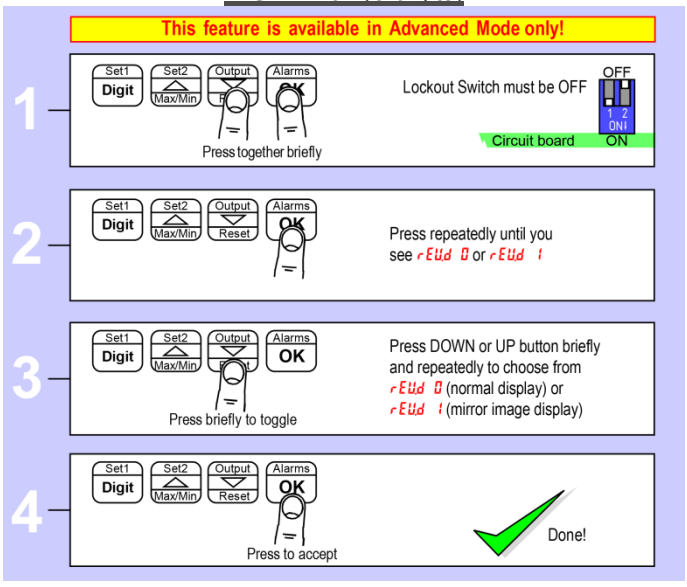
5.2.6. Reverse display function (mirror image)

If you need to be able to see a reflection of the display in a mirror or other reflective surface, for example in a simple heads-up system, or for drivers reversing into a bay, using mirrors only, you can set the display to show as a mirror image.

DISP-FP4x (4 digits)



DISP-FP6x (6 digits)



Example of normal display format displaying the number 234567

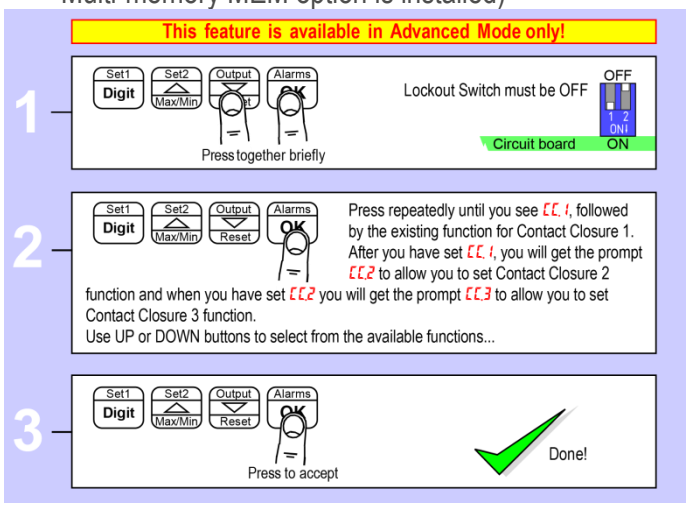
Example of Mirror Reverse display format displaying the number 234567

5.2.7. Logic input functions

The three contact closure inputs on the rear of the meter have default functions which are:

- Contact closure 1 = Tare (tArE)
- Contact closure 2 = Peak/Valley display (PU)
- Contact closure 3 = Reset (CC.3)

You can re-assign these to include: HOLD, Net/Gross value display, Memory page address 1,2 or 4 (only if Multi-memory MEM option is installed)



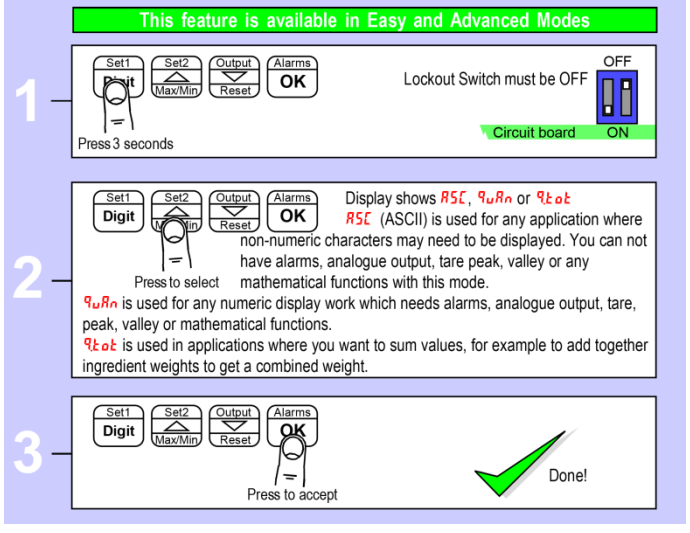
4 digits		6 digits
tArE	Tare display to 0	tArE
PU	Peak/Valley toggle	PU
rSt	Reset	rSt
HoLd	Freeze display	HoLd
nt.Gr	Net / Gross display	nEt.Gro
PA.1	Page Address 1*	PA.1
PA2	Page Address 2*	PA2
PA4	Page Address 4*	PA4

*Only available if the Multi-memory MEM option is installed

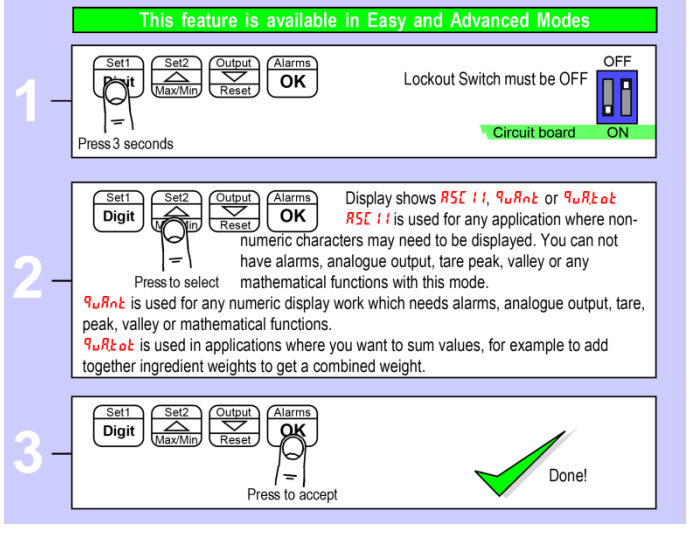
5.3. Display modes

You can choose from three operating modes.

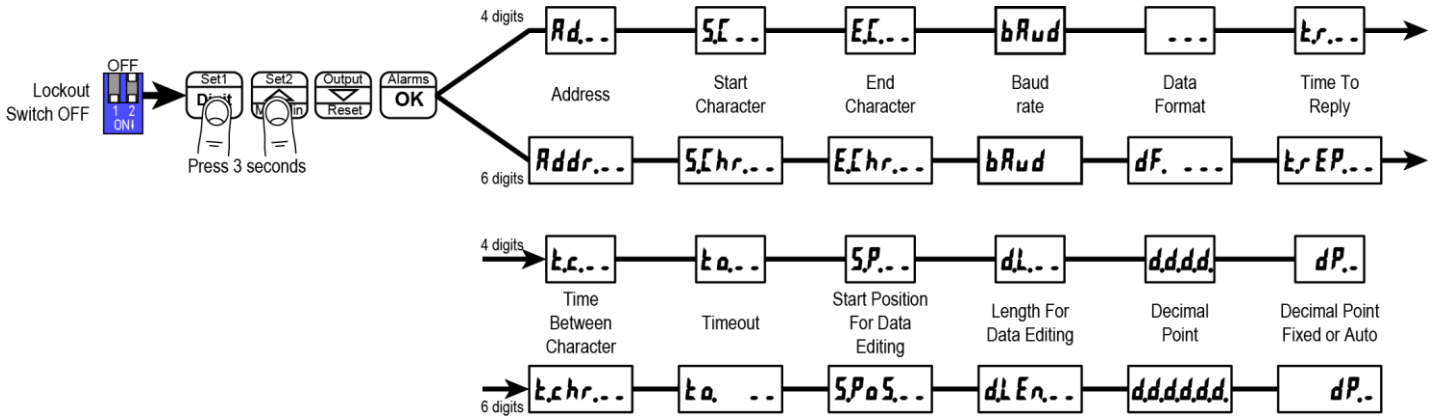
DISP-FP4x (4 digits)



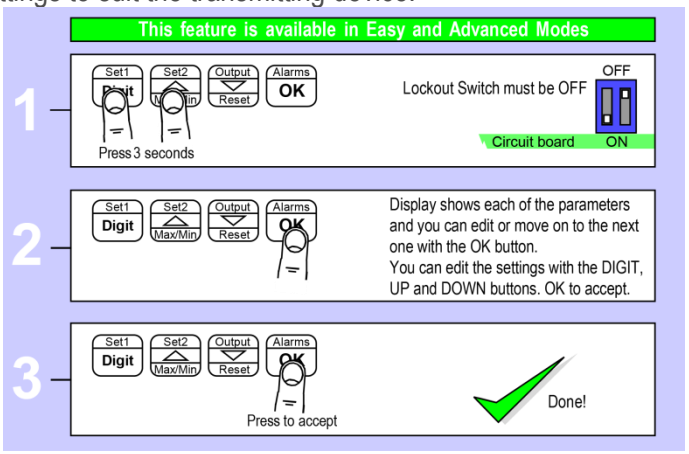
DISP-FP6x (6 digits)



5.4. Serial data settings



Choose the serial data settings to suit the transmitting device.



4 digits		6 digits
Rd.01	The display's address, from 00 to FF. Choose 00 if you do not need addressing.	Rddr.01
St.02	The Start Character. 02 = STX. Select 00 if you do not have a defined start character.	StChr.02
End.03	The End Character. 03 is ETX, 0d is Carriage return.	EndChr.03
bAud 9600	Choose a baud rate to suit the sender.	bAud 9600
8n1	Data format 8 data bits, no parity, 1 stop	dF. 8n1
tr.05	Time to reply following a request, in msec	trEP.05
tc.00	Time in msec between each character.	tchr.00
to. 03	Timeout Secs. if data lost. Display shows ------	to. 03
SP.00	Start position for data editing (see opposite)	SPoS.00
dL.06	Data length for editing (see opposite)	dLEn.06
d.d.d.d.	Decimal point position for alarms	d.d.d.d.d.
dPA or dPF	Decimal point Automatic (in string) or Fixed	dPA or dPF

5.4.1. Serial data setting examples

5.4.1.1. Sending data to an addressed display

Let us assume the display has address 45 and you want to send the value 123.4 to it at 19200 baud. Your data will be sent as <STX>45123.4<CR>. Set :

4 digits	6 digits
Ad.45	Addr.45
S.C.02	S.Chr.02
E.C.0d	E.Chr.0d
bAud 19200	bAud 19200
8n1	dF. 8n1
t.r.05	t.rEP.05
t.c.00	t.chr.00
t.o.03	t.o. 03
S.P.00	S.Po5.00
d.L.06	d.LEn.06
dddd	dddddd

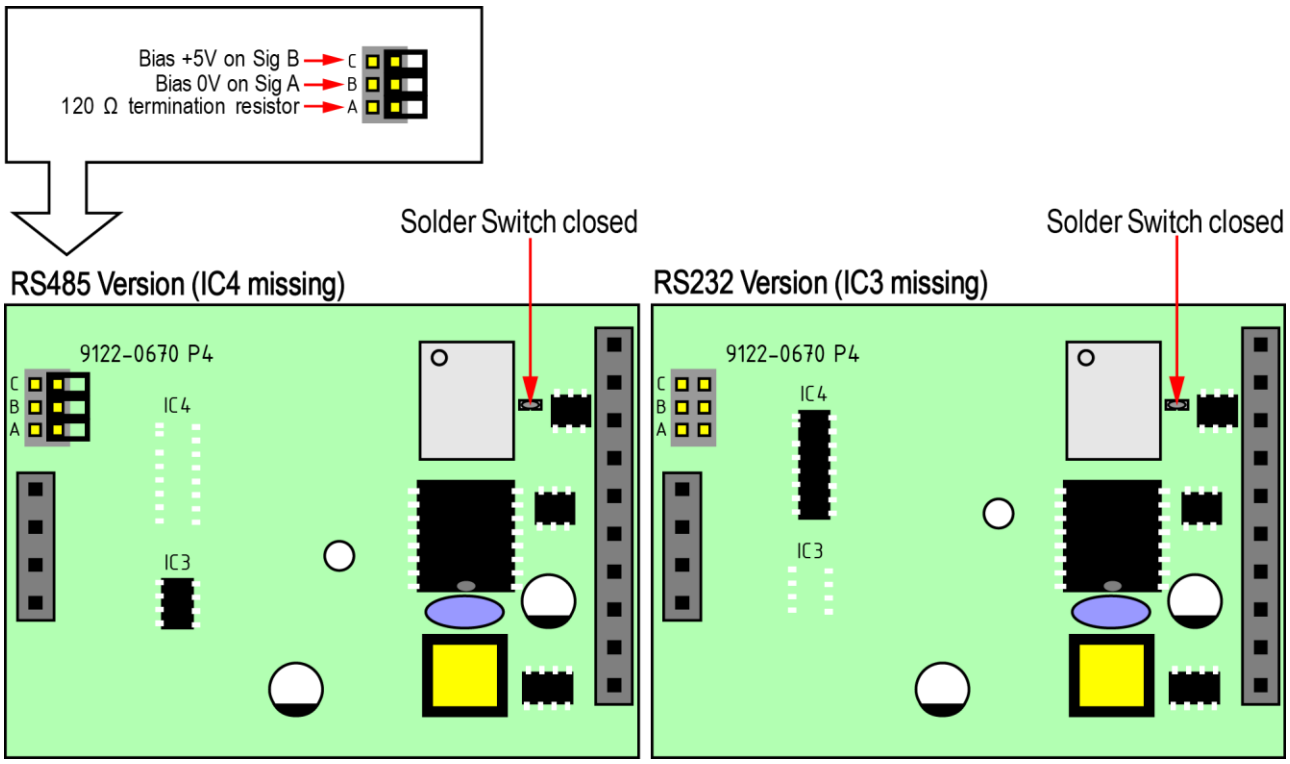
5.4.1.2. Extracting data from a complex string (data editing)

Let us assume the data is sent as a complex string at 1200 baud such as ...
<Start Char><Address Characters><Data: ligo6ho987hmw1234.56kg abcd><End Char.> and you want to display only the numeric weight value...

			Value to display		
Start character	Address characters	ligo6ho987hmw	1234.56	Kg abcd	End character
STX	78				ETX
	s.P.xx 0 to 99/ s.Pos.xx 0 to 99		d.L.xx/ d.Len.xx s.P.xx -1 to -19/ s.Pos.xx -1 to -19		

You would set…

4 digits	6 digits
Ad.78	Addr.78
S.C.02	S.Chr.02
E.C.03	E.Chr.03
bAud 1200	bAud 1200
8n1	dF. 8n1
t.r.05	t.rEP.05
t.c.00	t.chr.00
t.o.03	t.o. 03
S.P.15	S.Po5.15
d.L.06	d.LEn.06
dddd	dddddd

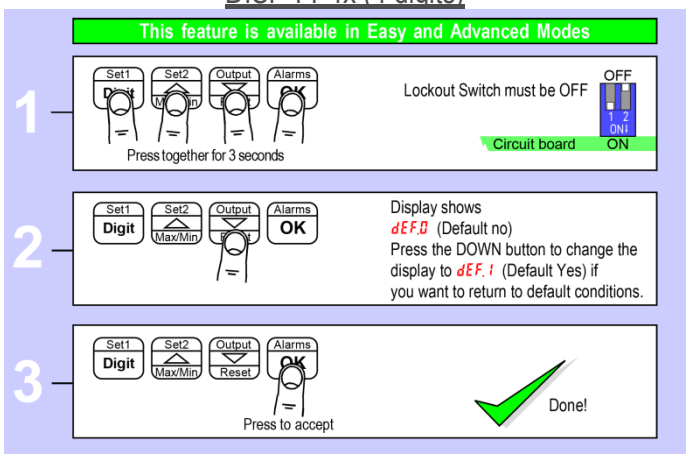


	4 digits	6 digits
tArE	Tares display to 0. Often used in weighing systems to zero a display prior to making a measurement. Net weight is shown once tared. When a display has been tared the small LED above the Set1 button will be illuminated.	tArE
PU	Peak/Valley toggle. Allows you to view the maximum and minimum values which have been displayed since last reset. 0% LED illuminates when showing valley, 100% LED illuminates when showing peak.	PU
rSt	Reset. This clears any tare, peak, valley, alarm latch	rSt
HoLd	Freezes the displayed value for as long as the Hold input is closed	HoLd
nt.Gr	Allows you to toggle between Net and Gross values on the display	nEt.Gro
PA1 PA4	Page Addresses, if MEM option is installed.	PA1 PA4

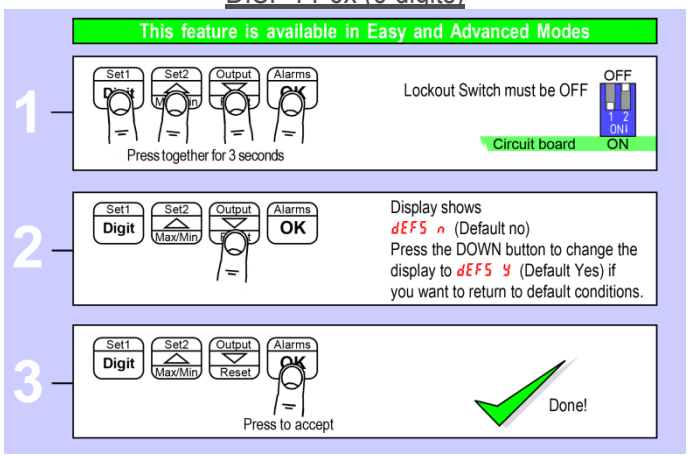
5.5. Reset to factory defaults

You can return the display to its factory default conditions whenever you wish. If you do so, you will permanently lose all your settings and will need to start from the beginning again. The calibration Audit Counter will NOT be reset, there is no way provided to reset this value, as it is intended as a secure record to indicate whether changes have been made to the display since it was last calibrated.

DISP-FP4x (4 digits)



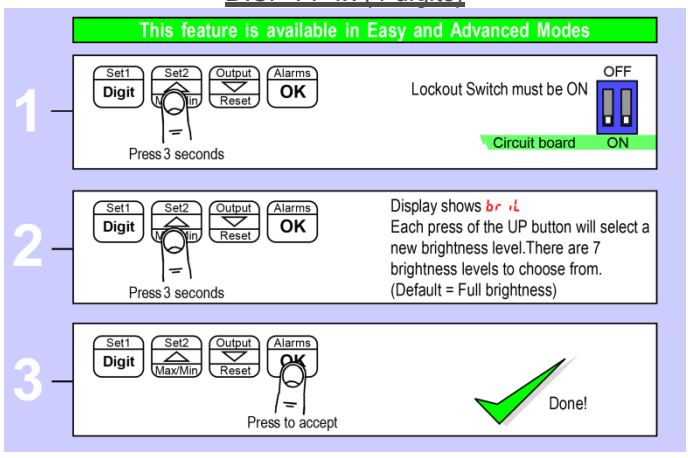
DISP-FP6x (6 digits)



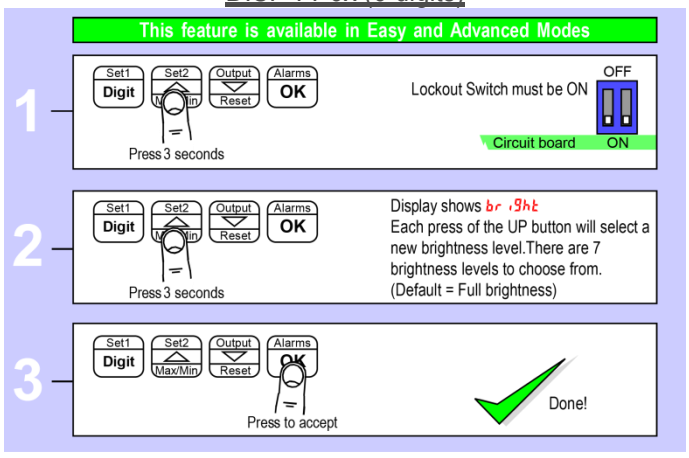
5.6. Display brightness

You can adjust the display brightness at any time, provided the display is locked.

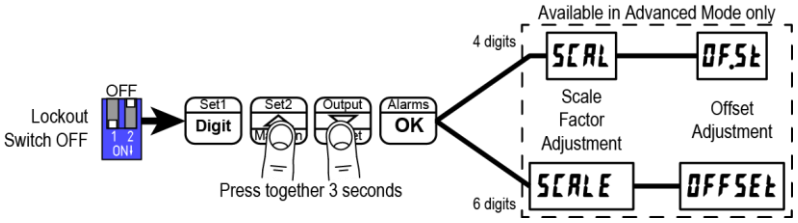
DISP-FP4x (4 digits)



DISP-FP6x (6 digits)



5.7. Calibration adjustment



5.7.1. Scale factor adjustment

After you have calibrated your meter, you can use the SCALE feature to make fine adjustments to calibration, without affecting the calibration itself. You must have mode = 9uRn / 9uRnt

Examples:

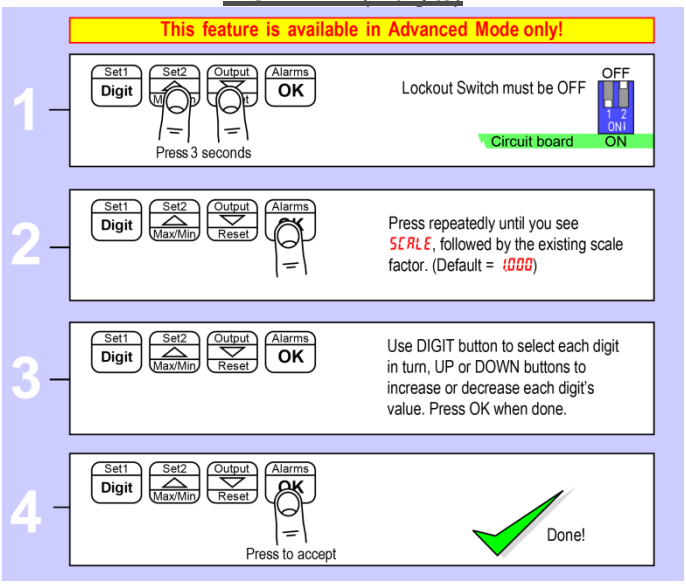
1. Changing weight units of measure from kg to pounds:

You could also use the SCALE to convert your readout from kg to pounds, without affecting the calibration. Simply set SCALE = 2.205 and your meter which was calibrated in kg will now read in pounds.

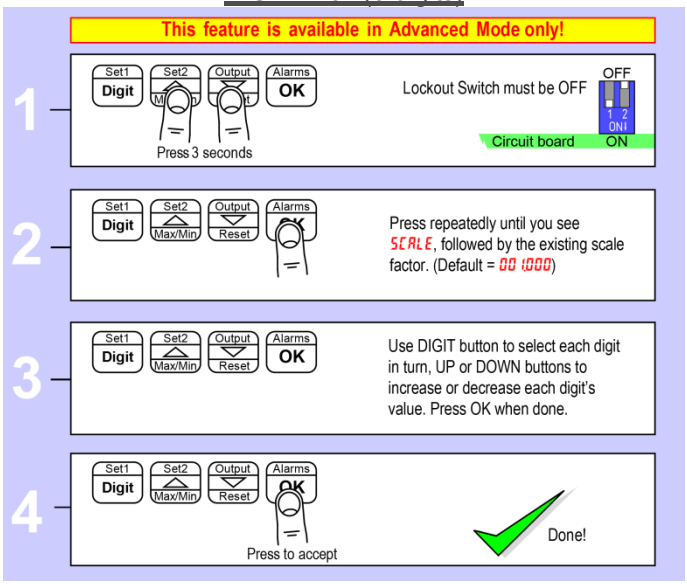
2. Correcting for gravitational variance:

Your weighing system was calibrated where gravitational acceleration = 9.812m/s² (London). You then move the system to Bangkok where gravitational acceleration is reduced to 9.782m/s². You can correct for this difference by setting Scale = 9.812 / 9.782 = 1.003, so that a given mass in Bangkok will show the same weight as it did in London. Set Offset = 0.0000

DISP-FP4x (4 digits)



DISP-FP6x (6 digits)

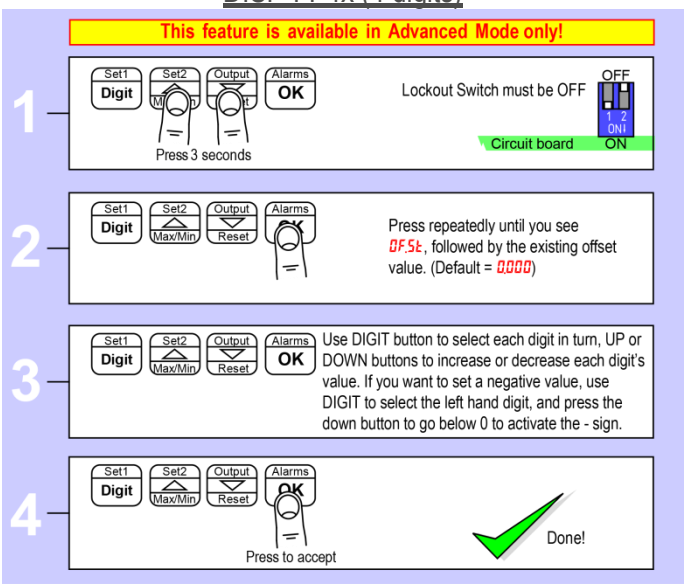


You may want to adjust an offset value also, see separate OFFSET page for this feature.

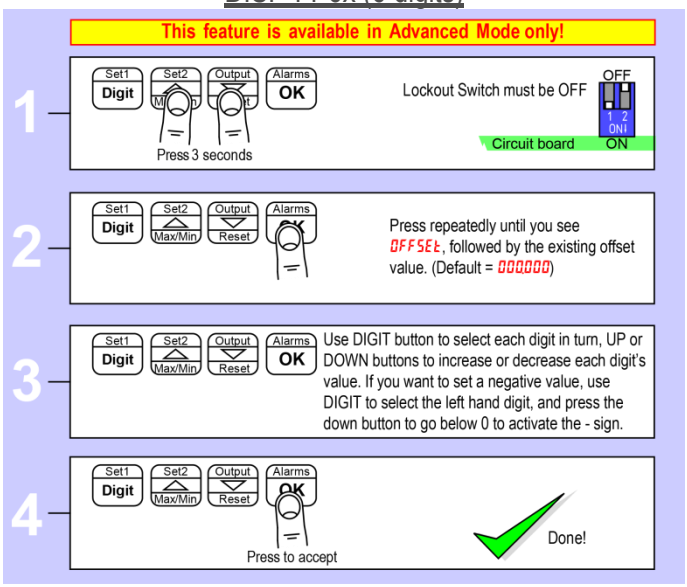
5.7.2. Offset adjustment

After you have calibrated your meter, you can use the OFSt / OFFSEt feature to make fine additions or subtractions to the reading, without affecting the calibration itself.
You must have mode = qUAn / qUAnt
For example if your weighing structure is altered after calibration and you want to subtract the effect of 37kg of extra metalwork which was welded to the hopper, you can easily do this by entering a value of -37 in the offset value.

DISP-FP4x (4 digits)



DISP-FP6x (6 digits)



You may want to adjust a SCALE FACTOR value also, without affecting calibration. See the separate SCALE page for this feature.

6. MULTI-PROGRAM MEMORY OPTION MEM

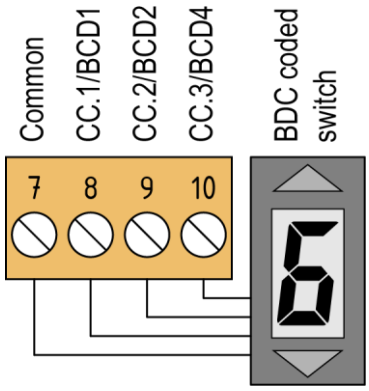
The three contact closure inputs on the rear of the meter may be used to call up between 1 to 7 additional meter setup memories (pages), if the MEM option has been installed. This allows you to save up to 8 complete sets of independent calibrations, alarm settings, analogue output settings and serial communications settings.
First decide how many memory pages you want, as this will determine how many logic inputs you will need to use for the addressing. Logic inputs not required for Page Addressing can be used for other functions such as Tare, Reset, Display Hold, Peak/Valley display.
If you have used all 3 logic inputs for Page Addressing, you can still use the meter's front panel buttons to perform Tare, Reset and peak/Valley view.
See "Contact Closure Input Functions" page for CC.1, CC.2, CC.3 and COP settings

Total number of pages	Logic Inputs required for addressing
1	none, standard single page meter
2	1 Set CC.1 = PA.1
3	or 4 2 Set CC.1 = PA.1, Set CC.2 = PA.2
5	to 8 3 Set CC.1 = PA.1, Set CC.2 = PA.2, Set CC.3 = PA.4

1. Set lockout switches OFF, and set page address to 0 or unplug the logic connector.
2. Set the copy instruction to COP.1 in page address 0 (found after you set CC3) .
3. Press all 4 buttons together, display shows dEF. n
4. Press the Up arrow to change display to dEF. Y and press OK.
5. If you want all channels to share a common setting, eg calibration, do that setting now.
6. When you want to do separate settings for each channel, set COP.0

6.1. Programming and recalling individual pages

Plug the logic input connector back in, if you removed it earlier. Select a page address using the switch combinations shown below, wired to the Logic Input connector...

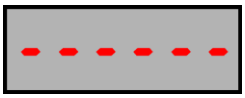


Page address 0	All logic inputs open
Page address 1	CC.1 closed to Common
Page address 2	CC.2 closed to Common
Page address 3	CC.1 and CC.2 closed to Common
Page address 4	CC.4 closed to Common
Page address 5	CC.1 and CC.3 closed to Common
Page address 6	CC.2 and CC.3 closed to Common
Page address 7	All logic inputs closed to Common

Perform the settings you require, according to the pages in this manual. Do this for all page addresses required. Then put the lockout switch in its ON position. Now, if you select a page address, the meter will briefly confirm the chosen page address on screen, and will then function according to the settings you programmed for that address. Suitable BCD coded switches are available from many electrical supply stores.

7. ERROR CODES AND FAULT FINDING

1. Display shows minus signs.



This tells us that there is no response to input data, either because....

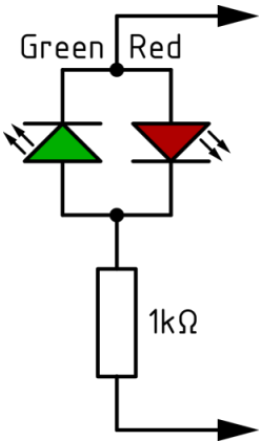
a) There is no data, and the display has timed out
b) There is an error in the data wiring.
c) One or more of the menu settings may be wrong.

You can test for a) and b) with a simple data monitor which you can make with 2 diodes and a resistor, as shown below.

The Green LED should be on for most of the time, and you should see the red LED flicker as data is sent. If the red LED is lit most of the time, with the green flickering, your wiring may be transposed. If neither LED is lit, check your data source to make sure it is configured to transmit continuously, and check your connections to make sure the cabling and connector terminals used are correct. If the Green LED is on, but no flickering of the red is seen, check that the data source has been set to transmit permanently. If the data source is another London Electronics Display, make sure it has been set to mode C1 and that the enable terminal on the serial output connector is connected to data common.

Simple Data monitor:

2 x LEDs connected back to back and a 1kΩ resistor.



Terminal numbers on input connector of display	
RS232	RS422/485
3	4
Green LED on most of the time. Red LED flashes with data.	
2	3

2. You can use your PC to generate and monitor serial data, with a free program called TeraTerm which you can download from http://ttssh2.osdn.jp This can be very useful in diagnosing communication problems.
3. The display shows a red dot on the right side with OFF or a fixed value.

This is just means that you've enter one of the 4 optional alarm. Just press OK several times to get out of the parameter.

8. HOW TO INSTALL OPTION BOARDS

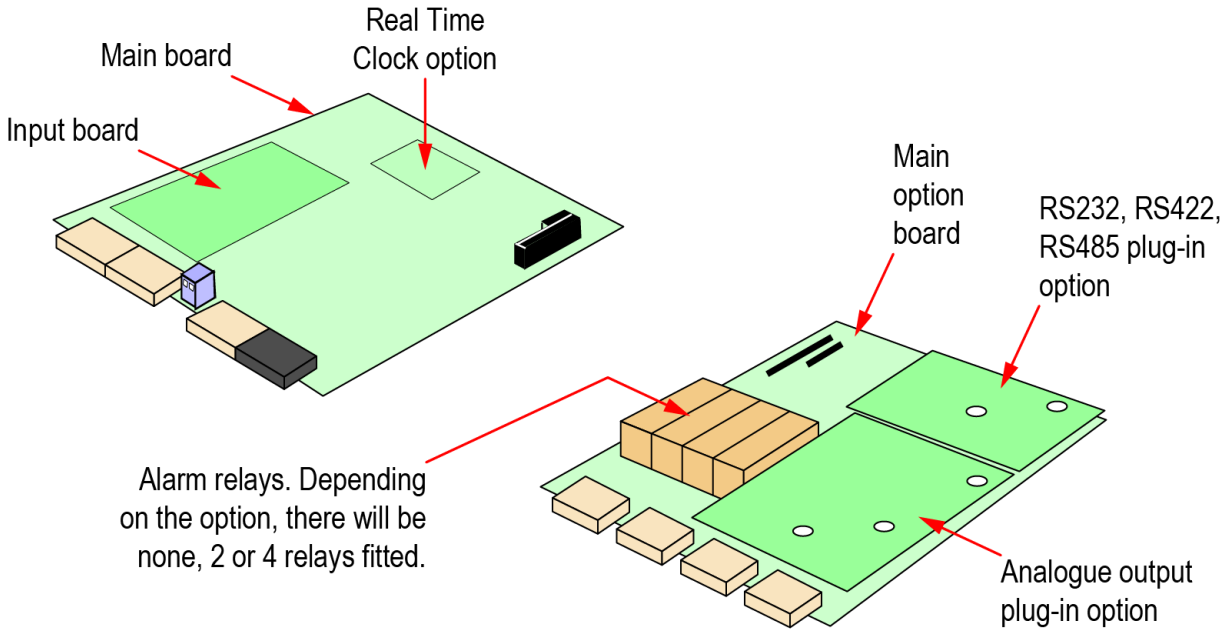
Where the product is intended for “UL” installations removal or addition of option boards is not permitted.

Warning: Disconnect power before you expose the internals of the display

If you want to open your display to install or modify option boards, follow these steps...

1. Switch off power to the display and unplug all connectors.
2. Undo all the thumb screws on the rear case, store them safely and remove the back panel
3. Locate the main option board, which will be similar in appearance to the diagram below.

If a main option board is absent, which will be the case if the display was ordered without any output options, then a main option board will need to be fitted. The board assemblies will look like this...



The analogue output and RS232 or RS422 plug-in option boards are fixed to the main option board with white plastic pillars. You must apply a firm force when fitting or removing these options.
Always be careful to connect the pins to sockets accurately. When reassembling, make sure option boards are firmly fixed to the upper option board.

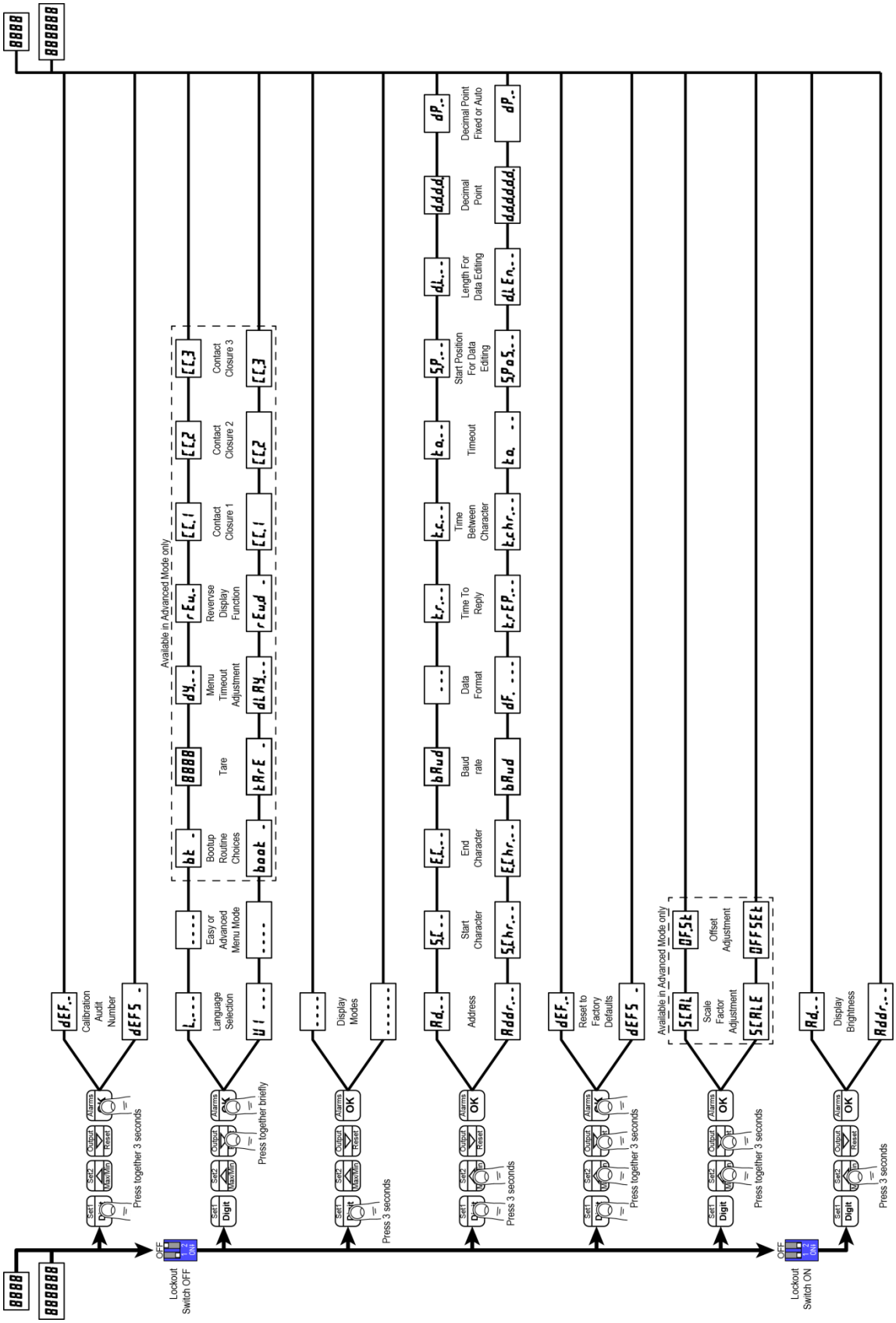
9. WASTE ELECTRICAL ELECTRONIC EQUIPMENT (WEEE)

In Europe, this equipment must be disposed of in accordance with European Parliamentary Directive 2002/96/EC. This directive encourages recycling and the reduction of waste materials in the environment. This means it must be sent to an approved recycling plant if you want to dispose of it. It must not be thrown away with general rubbish.

10. SPECIFICATIONS

Performances	Input signals	RS232 on model INT2-S2
		RS422 and RS485 on model INT2-S4
	Baude rate	Selectable from 300 to 115200
	Data format	Selectable 701,7e1,7n2,80,8E,8n,8n2
	Address	00 to FF
	Inter message delay time	00 to 99 msec
	Inter character delay time	00 to 99 msec
	Display update rate	10 readings per second
	Display range	-199999 to 999999
Indication	Display update rate	10 readings per second
	Display range	-199999 to 999999
Electrical	Power supply	100-240 VAC, 45 to 60Hz
		11-30 VDC optional
		48V AC optional
		40VA maximum
	Connection	Internal detachable Screw Terminal connectors accessed via compression glands
Environmental	Operating Temperature	0 to 50°C. Internal heater option available for use in conditions down to -25C. Allow 30 minutes for this product to reach thermal equilibrium
	Storage Temperature range	-20 to +70C, non-condensing
	Environmental Rating	IP65 all round, provided the display is mounted vertically and that all cable glands and rear case-closure screws are properly secured.
	Enclosure Type	Heavy duty welded uPVC

11. DISP-FPXX SERIAL PROGRAMMING QUICK OVERVIEW



12. ANNEXES

12.1. ASCII Hex codes and displayed characters

20	sp	34	4	42	B	49	I	50	P	57	W	63	c	69	i	6F	o	75	u
2D	-	35	5	43	C	4A	J	51	q	58	x	64	d	6A	j	70	p	76	v
2E	.	36	6	44	D	4B	K	52	r	59	y	65	E	6B	k	71	q	77	W
30	0	37	7	45	E	4C	L	53	S	5A	Z	66	F	6C	l	72	r	78	x
31	1	38	8	46	F	4D	M	55	t	51	A	67	g	6D	m	73	s	79	y
32	2	39	9	47	G	4E	N	55	U	62	b	68	h	6E	n	74	t	7A	z
33	3	41	A	48	H	4F	O	56	V										

12.2. Other ASCII Hescodes and their characters are:

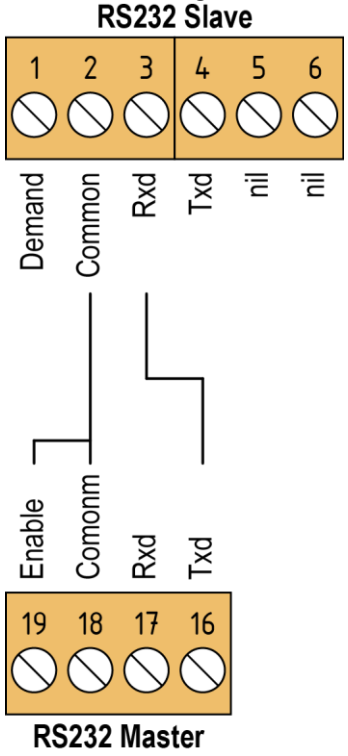
HEX	Function	HEX	Function	HEX	Function	HEX	Function	HEX	Function
02	STX	1B	escape	29	)	2F	/	60	‘
03	ETX	20	space	2A	*	3C	<	7B	{
04	EOT	21	!	2B	+	3E	>	7C	|
0A	LF	25	%	2C	,	5C	\	7D	}
0C	FF	26	&	2D	-	5E	^	7E	~
0d	CR	28	(	2E	.	5F	_	7F	DEL

12.3. Special data commands

These messages are not handled by the normal data parsing. If the escape character '~' is the first available character the whole message is treated as a command message.
Message format is: <S.Chr><Addr>~[Command]<E.Chr>.
Display Brightness Control '~Bx' where 'x' is 1(dim) to 8(bright). The brightness setting is not saved to non-volatile memory
Clear display '~C' Clears display and indicators (meter looks like it's turned off). The display will return to its illuminated state on the next receipt of normal data.
Set/Clear Alarm Indicator '~Aas' where 'a' is the Indicator ID (0 to 3) where's' is the state (0 or 1) When this command is received normal alarm indication is suspended until the meter is rebooted

12.4. Connecting master and slave displays over RS232 or RS485

RS232 should be used over short distance only, preferably under 10 meters of cable length.



Input settings on slave

Mode=OuAnt
Addr.00
S.Chr.00
E.Chr.0d
bAud 1200
dFnBn1
tr.PP.05
c.Chr.00
to.03
S.POS.00
dLEn.00
dddddd
dP.A

Output settings on master

bAud 1200
dFnBn1
Addr.00
tr.PP.05
c.Chr.00

RS485 can be used over cable lengths from 0 to over 1000 meters of cable length.