

NOW FEATURING
OPTIONAL PLUG-IN
RELAY OR SSR
OUTPUT MODULES

DL-40F

**Leopard Frequency Meter
4 Digit 0.56" or 0.8" LEDs
in a 1/8 DIN CASE**



LEOPARD FAMILY

Large display option
0.8" red or green LED

An economically smart meter relay for frequency measurement.

General Features

- Frequency input. Easily user scaled.
- For RPM measurements, the recommended meter is the DL-40RPM meter which has been designed specifically for that purpose. Just enter the pulses per revolution and the DL-40RPM meter will calculate and display the RPM reading.
- Three frequency ranges of 99.99Hz, 999.9Hz and 9999Hz.
- Optional isolated 16 bit analog output. User or factory scalable to 4 to 20 mA, 0 to 20 mA or 0 to 10 V across any desired digital span from ± one count to the full scale range of – 1999 to 9999 (12000 counts).
- Auto-sensing AC/DC power supply. For voltages between **85-265 V AC / 95-370 V DC (PS1)** or 15-48 V AC / 10-72 V DC (PS2).
- Standard red or optional green or super bright red 4-digit LED
- Red or green 0.8" LED large display option.
- Four annunciator LEDs provide front panel alarm status indication for up to four setpoints.
- Optional relays. Two 10 Amp Form C and two 5 Amp Form A relay, or optionally four 5 Amp Form A relays are available.

Software Features

- Three-button programming from the front panel (UP, DOWN and PROGRAM buttons).
- Three front panel selectable ranges.
- Front panel selectable four-level brightness control of digital display, and setpoint LEDs.
- Four programmable setpoints.
- Relay activation can be selected to occur above (HI) or below (LO) each setpoint.
- Hysteresis setting for all four setpoints. Delay on make and delay on break for SP1 and SP2.
- Peak and Valley. View and Reset.

Input Module Compatibility

There are 2 Plug-in Modular Input Signal Conditioners for this specialized frequency only member of the Leopard Family: IF05 & IF08.



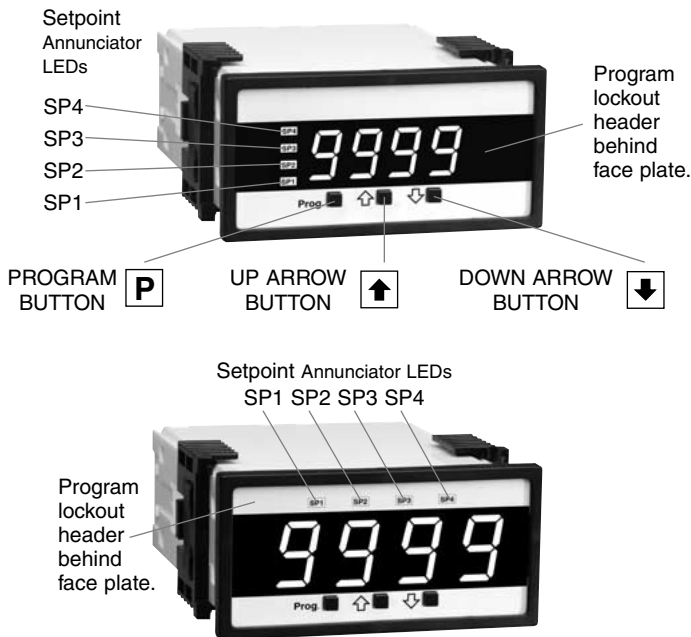
LEOPARD

Specifications

- Input Specs:**Depends on Input Signal Conditioner
- A/D Converter:**14 Bit Single Slope
- Accuracy:**±(0.05% of reading + 2 counts)
- Temp. Coeff.:**100 ppm/°C (Typical)
- Warm up time:**2 minutes
- Conversion Rate:**5 conversions per second (Typical)
- Display:****4 digit 0.56" Red LED display (std)**, 0.56" or 0.8" Red, Green or Super Bright Red (optn). Range –1999 to 9999 counts.
- Polarity:**Assumed positive. Displays – negative
- Decimal Selection:**.....Automatic by resolution select XXX•X
- Positive Overage:**...Top segments of digital display flash
- Negative Overage:** Bottom segments of digital display flash
- Relay Output:**Two 5 Amp Form A relays and two 10 Amp Form C, or 5 Amp form A relays.
- Analog Output:**Isolated 16 bit user scalable mA or V
 - AIC (mA out)4-20 mA @ 0 to 500Ω max loop resistance
 - AIV (volts out)0-10 V DC @ 500 Ω or higher resistance
- Power Supply:**AC/DC Auto sensing wide range supply
 - PS1 (std)****85-265 VAC / 95-370 VDC @ 2.5W max 3.5W**
 - PS2**15-48 VAC / 10-72 VDC @ 2.5W max 3.5W
- Operating Temp.:**0 to 60 °C
- Storage Temp:**–20 °C to 70 °C.
- Relative Humidity:**95% (non condensing)
- Case Dimensions:**1 1/8 DIN, Bezel: 96x48 mm (3.78"x1.89")
 - Depth behind bezel: 117 mm (4.61")
 - Plus 11.8 mm (0.47") for Right-angled connectors, or plus 20 mm (0.79") for Straight-thru connector.
- Weight:**6.5 oz., 8.5 oz when packed




Index

Case Dimensions10	Functional Diagram7	Metal Surround Case OP-MTL96X48 .11	Software Logic Tree3
Component Layout8-9	General Features1	Ordering Information12	Specifications1
Connector Pinouts7-8	Glossary of Programming Symbols2	Pin Descriptions8	Two Point Analog Output
Controls and Indicators2	Input Module Compatibility1	Range, Decimal Point & Brightness Selection .5	Range Setting & Calibration4
Digital Calibration Mode4	I-Series Input Signal	Setpoint Setting & Relay Configuration Mode .6	
Digital Span Selection for	Conditioning Modules10	Setting Frequency Display5	
Analog Range Output5	Lens Cover OP-N4X/96X4811	Software Features1	





Front Panel Buttons

Program Button


The  button is used to move from one program step to the next. When pressed at the same time as the , it initiates the **calibration mode**. When pressed at the same time as the , it initiates the **setpoint setting mode**.


Up Button

When in the operational display, pressing the  button alone allows you to view, but not change, the setting of **setpoint 1**.

When in the **calibration mode** or the **setpoint setting mode** the  button is used to increase the value of the displayed parameter.





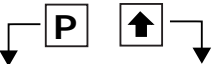



Down Button

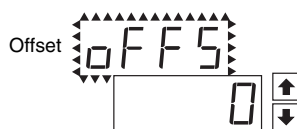
When in the operational display, pressing the  button alone allows you to view, but not change, the setting of **setpoint 2**.

When in the **calibration mode** or the **setpoint setting mode** the  button is used to decrease the value of the displayed parameter.

Glossary of Programming Symbols

To explain software programming procedures, logic diagrams are used to visually assist in following the programming steps. The following symbols are used throughout the logic diagrams to represent the buttons and indicators on the meter:

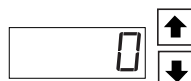
Symbol	Explanation
	This symbol represents the OPERATIONAL DISPLAY.
	This is the PROGRAM button.
	This is the UP button.
	This is the DOWN button.
	When a button is shown, press and release it to go onto the next step in the direction indicated by the arrow. When two or more buttons are shown, each with an arrow, this indicates that there is a number of programming choices.
	When two buttons are shown side by side and enclosed by a dotted line, they must be pressed at the same time then released to go onto the next programming step.
	If the display is shown with XXXX it means the value displayed will be the previously set value. When a number is shown it indicates the initial factory default setting or a specific "example number".
	







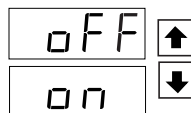
When two displays are shown together with bursts, this indicates that the display is toggling (flashing) between the name of the function and the value.





[ScLE]
[9999]

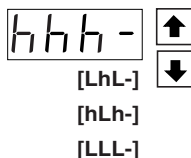
Text or numbers shown between square brackets in a procedure indicate the programming code name of the function or the value displayed on the meter display.





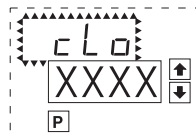
When the  and  buttons are shown together, the display value can be increased by pressing and releasing the  button or decreased by pressing and releasing the  button.



When the  and  buttons are shown with two displays, either display can be selected by pressing and releasing the  or  buttons.



When there are more than two display selections they are shown in brackets below the first display and are also selectable by pressing and releasing the  or  buttons.

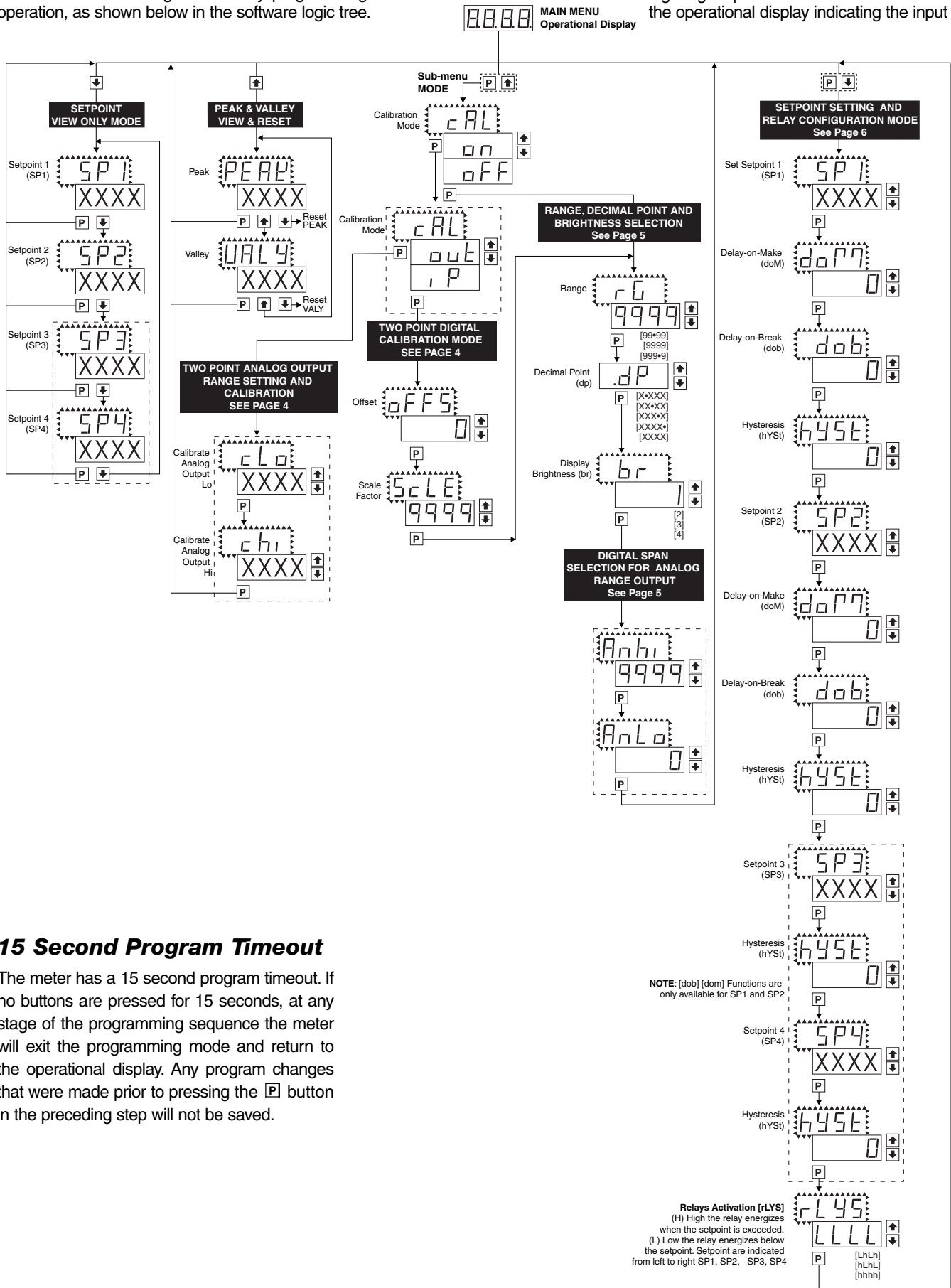


A dotted box indicates these functions are omitted or bypassed when the related hardware is not present

Software Logic Tree

The DL-40F is an intelligent meter with a hierarchical software structure designed for easy programming and operation, as shown below in the software logic tree.

After the meter has been powered up, the four digits light up for three seconds and then settle to the operational display indicating the input signal.



15 Second Program Timeout

The meter has a 15 second program timeout. If no buttons are pressed for 15 seconds, at any stage of the programming sequence the meter will exit the programming mode and return to the operational display. Any program changes that were made prior to pressing the [P] button in the preceding step will not be saved.

Two Point Analog Output Range Setting and Calibration

STEP A Enter the Calibration Mode

- 1) Press the **[P]** and **[↑]** buttons at the same time. Display toggles between [cAL] and [oFF].
- 2) Press the **[↑]** or **[↓]** button. Display changes from [oFF] to [on].
- 3) Press the **[P]** button. Display toggles between [cAL] and [out].

Note: If at this point the display skips directly to toggle between [ScLE] and the previous Scale factor setting (STEP D) then the software is detecting that the optional analog output hardware is NOT installed.

STEP B Enter the [oUT] Analog Output Calibration Mode

- 1) Press the **[P]** button. Display toggles between [cLo] and an internal scale factor.

STEP C Set or Calibrate the [cLo] Low Analog Output

- 1) Select the voltage or current loop output header position on the output module. (See Component Layout on page 9).
- 2) Connect a multimeter to pins 16 and 17 on the output module. (See Rear Panel Pinouts on page 8). Using the **[↑]** and **[↓]** buttons, adjust the analog output to the desired low value as shown on the multimeter display. cLo may be adjusted to any value from -0.3 mA to 17 mA (mA output selected) or from -0.6 V to 8 V (volt output selected)
- 3) Press the **[P]** button. Display toggles between [chi] and an internal scale factor.

STEP D Set or Calibrate the [chi] High Analog Output

- 1) Using the **[↑]** and **[↓]** buttons, adjust the analog output to the desired high value as shown on the multimeter display. chi may be adjusted to any value from 17 mA to 21 mA (mA output selected) or from 8 V to 10.3 V (volt output selected)
- 2) Press the **[P]** button. The display exits the calibration mode and returns to the operational display.

Note: Having established the Low and High range of the analog output, the digital span can now be selected which will set the two display points between which the analog output will occur. (See Digital Span Selection below).

Digital Calibration Mode

STEP E Enter the Calibration Mode

- 1) Press the **[P]** and **[↑]** buttons at the same time. Display toggles between [cAL] and [oFF].
- 2) Press the **[↑]** or **[↓]** button. Display changes from [oFF] to [on].
- 3) Press the **[P]** button. Display toggles between [cAL] and [out].

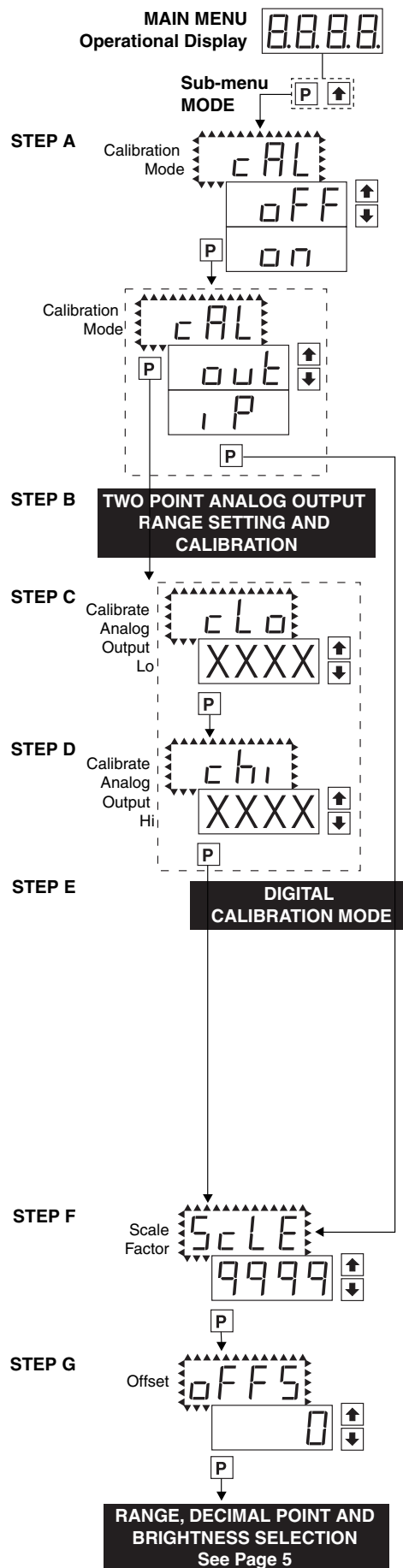
Note: If at this point the display skips directly to toggle between [ScLE] and the previous scale setting (STEP D) then the software is detecting that the optional analog output hardware is NOT installed.

STEP F Set the Scale Factor

- 1) Press the **[↑]** or **[↓]** button. Display changes from [out] to [iP].
- 2) Press the **[P]** button. Display toggles between [ScLE] and the previous scale setting.
- 3) For direct frequency measurement, set the scale to 9999. If a display that is scaled to read in engineering units is required, this scale factor may be set to any value from 0 to 9999.

STEP G Set the Offset

- 1) Press the **[P]** button. Display toggles between [oFFS] and the previous offset setting. For direct frequency measurement, set the offset to 0. If a display that is scaled to read in engineering units is required, this offset may be set to any value from -1999 to +9999.
- 2) Press the **[P]** button. Display toggles between [rG] and the previous setting. (See page 5 for setting range, decimal point and brightness)



Range, Decimal Point and Brightness Selection

STEP H Enter the Range Selection Mode Through the Sub Menu [cAL] [oFF]

- 1) Press the **[P]** and **[↕]** buttons at the same time. Display toggles between [cAL] and [oFF].
- 2) Press the **[P]** button. Display toggles between [rG] and the previous range setting.

STEP I Select the Range

- 1) Using the **[↕]** and **[↴]** buttons, select the required range. There are three ranges of 99.99Hz, 999.9Hz and 9999Hz
- 2) Press the **[P]** button. Display shows the previous [dp] decimal point selection.

STEP J Select the Decimal Point

- 1) Using the **[↕]** and **[↴]** buttons, adjust the display to the desired decimal point setting.
- 2) Press the **[P]** button. Display toggles between [br] and the previous brightness setting.

STEP K Set the Display Brightness

- 1) Using the **[↕]** and **[↴]** buttons, adjust the display to the desired brightness setting (4 is the brightest setting).
- 2) Press the **[P]** button. Display brightness changes to new setting and display toggles between [AnHi] and the previous [AnHi] setting.

Digital Span Selection for Analog Range Output

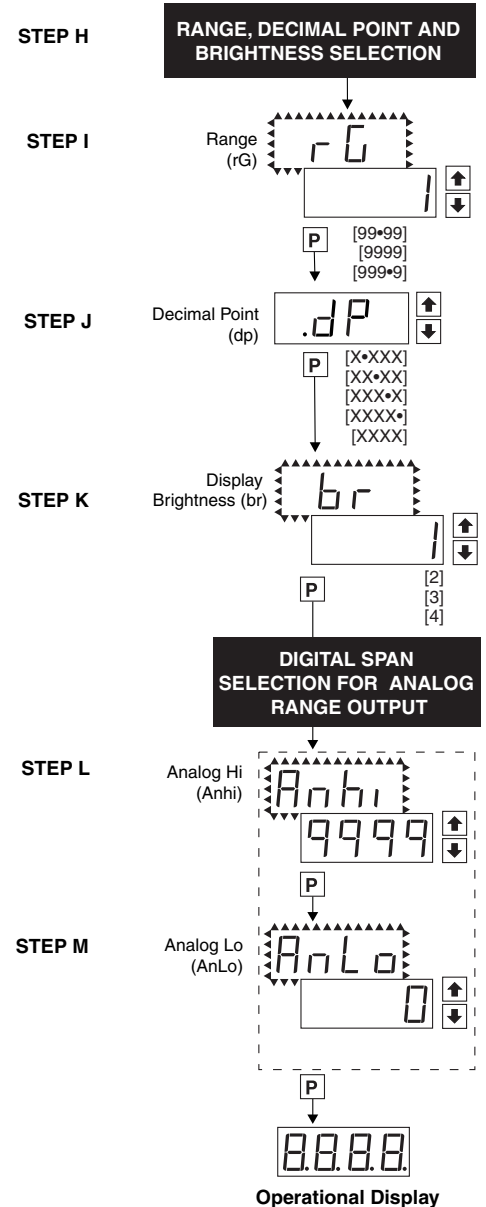
STEP L Set the Display Corresponding to the Analog High Output

- 1) Using the **[↕]** and **[↴]** buttons, adjust the display to the desired value at which the selected analog high output will occur.
- 2) Press the **[P]** button. Display toggles between [AnLo] and previous [AnLo] setting.

STEP M Set the Display Corresponding to the Analog Low Output

- 1) Using the **[↕]** and **[↴]** buttons, adjust the display to the value at which the selected analog low output range will occur.
- 2) Press the **[P]** button. The display exits the calibration mode and returns to the operational display.

Note: Any two points from -1999 to 9999 can be selected for which the specified analog output occurs. The display values for analog high and analog low can be reversed for reversed 20-4 mA output. The difference between the two display points can be as small as two counts however small spans cause the 16 bit D to A to increment in staircase steps.



Setpoint Setting and Relay Configuration Mode

The following programming steps are required to enter the setpoint values and configure the relay functions in a meter with four relays using four setpoints. Generally if less than four relays are installed the software auto detects missing relays and deletes reference to them from the menu. In some cases setpoints without relays are operational for display only purposes.

STEP A Enter the Setpoint Mode

- 1) Press the **P** and **↓** buttons at the same time.
Display toggles between [SP1] and the previous [SP1] setting.

STEP B Set Setpoint 1 (SP1)

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired SP1 value.
- 2) Press the **P** button. Display toggles between [doM] and the previous [doM] setting.

STEP C Set the SP1 Delay-on-Make (doM) Delay Time Setting

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired [doM] value (0 to 9999 seconds). The reading must continuously remain in an alarm condition until this delay time has elapsed before the relay will make contact (energize).
- 2) Press the **P** button. Display toggles between [dob] and the previous [dob] setting.

STEP D Set the SP1 Delay-on-Break (dob) Delay Time Setting

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired [dob] value (0 to 9999 seconds). The reading must continuously remain in an alarm condition until this delay time has elapsed before the relay will break contact (de-energize).
- 2) Press the **P** button. Display toggles between [hYSt] and the previous [hYSt] setting.

STEP E Set the Hysteresis Setting for Setpoint 1

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired hysteresis [hYSt] value.
 - 2) Press the **P** button. Display toggles between [SP2] and the previous [SP2] setting.
- NOTE:** Half of the Hysteresis value selected is applied above and below the setpoint.

NOTE: Steps F, G, H and J have functionally the same procedure as steps B, C, D, and E shown above.

STEP F Set Setpoint 2 (SP2)

STEP G Set the SP2 Delay-on-Make (doM) Delay Time Setting

STEP H Set the SP2 Delay-on-Break (dob) Delay Time Setting

STEP I Set the Hysteresis Setting for Setpoint 2

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired hysteresis [hYSt] value.
- 2) Press the **P** button. Display toggles between [SP3] and the previous [SP4] setting.

STEP J Set Setpoint 3 (SP3) (No [doM] or [dob])

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired SP3 value.
- 2) Press the **P** button. Display toggles between [hYSt] and the previous [hYSt] setting.

STEP K Set the Hysteresis Setting for Setpoint 3

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired hysteresis [hYSt] value.
- 2) Press the **P** button. Display toggles between [SP4] and the previous [SP4] setting.

STEP L Set Setpoint 4 (SP4) (No [doM] or [dob])

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired SP4 value.
- 2) Press the **P** button. Display toggles between [hYSt] and 0.

STEP M Set the Hysteresis Setting for Setpoint 4

- 1) Using the **↑** and **↓** buttons, adjust the display to the desired hysteresis [hYSt] value.
- 2) Press the **P** button. Display toggles between [rLYS] and the previous relay setting.

STEP N Set Relay Activation mode [rLYS]

(h) High the relay energizes when the setpoint is exceeded. (L) Low the relay energizes below the setpoint. The setpoint is indicated from left to right SP1, SP2, SP3, SP4.

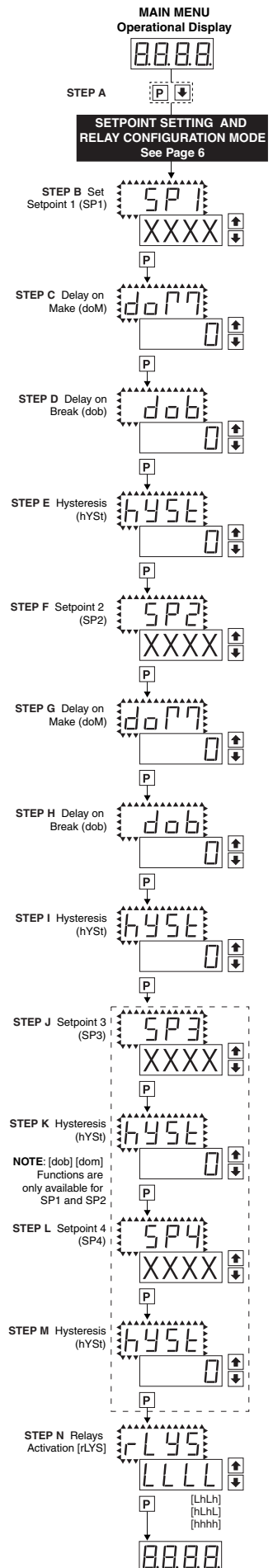
- 1) Using the **↑** and **↓** buttons, adjust the reading on the display to the desired relay settings: [LLLL], [LhLh], [hLhL], [hhhh].

If only 2 relays installed [Lh] [hL] [hh] [LL].

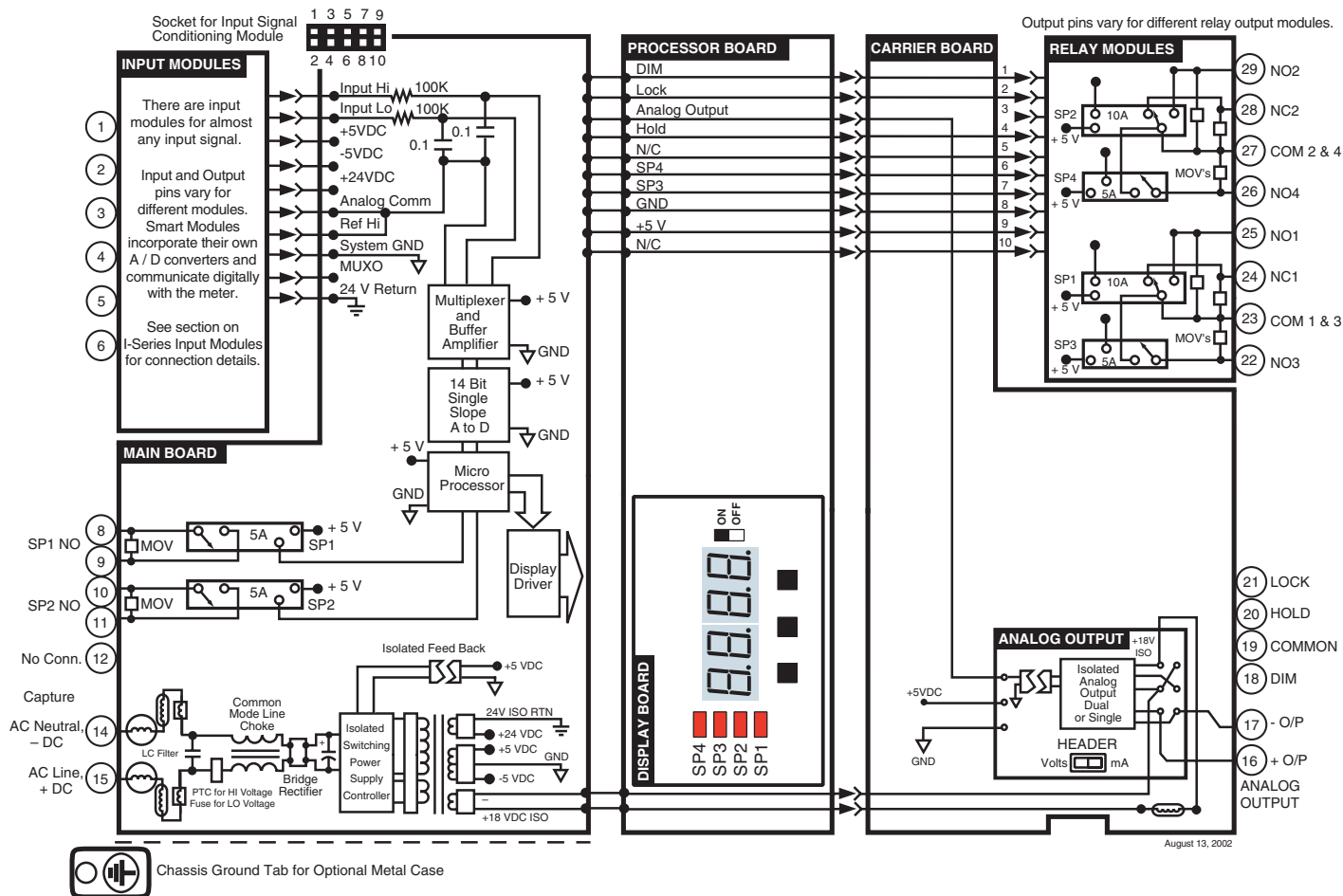
- 2) Press the **P** button.

The meter exits the setpoint mode and returns to the operational display.

The Setpoint Relay programming mode is now complete.



Functional Diagram



Connector Pinouts

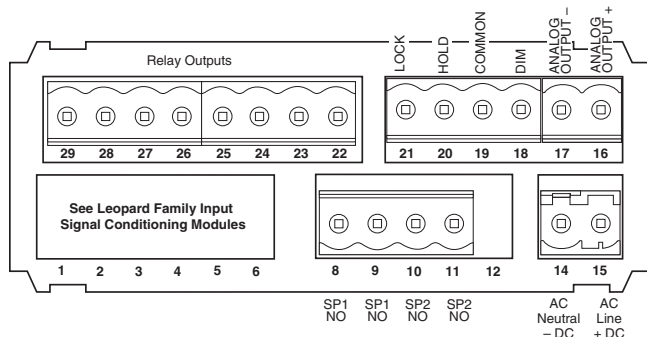
Pinout Diagram

The Rear View of the Meter diagram shows the meter with the relay configuration: dual 10 Amp Form C and dual 5 Amp Form A relays. An analog output module is also shown as installed.

The DL-40F uses plug-in type screw terminal connectors for all input and output connections. The power supply connections (pins 14 and 15) have a unique plug and socket outline to prevent cross connection. The main board and input signal conditioner use right-angled connectors as standard. The output module uses straight-thru connectors as standard.

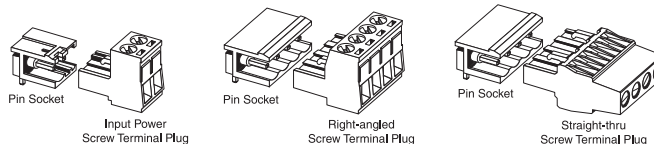


WARNING: AC and DC input signals and power supply voltages can be hazardous. Do Not connect live wires to screw terminal plugs, and do not insert, remove or handle screw terminal plugs with live wires connected.



Auto-sensing AC/DC power supply. For voltages between 85-265 V AC / 95-370 V DC (PS1) or 18-48 V AC / 10-72 V DC (PS2).

Standard plug-in screw terminal connectors provided by Texmate:



Input Signal – Pins 1 to 6

Pins 1 to 6 are reserved for the input signal conditioner. See the data sheet for the selected input signal conditioner.

Pins 8 to 12 – Relay Output Pins

Note: If relays for setpoints 1 & 2 are installed on the main board, and a relay output module is used that also has relays in the setpoints 1 & 2 positions, the duplicate relays will operate in unison.

- Pin 8 SP1 NO.
- Pin 9 SP1 NO. Normally Open 5 Amp Form A.
- Pin 10 SP2 NO.
- Pin 11 SP2 NO. Normally Open 5 Amp Form A.
- Pin 12 NO CONNECTION.

Pins 14 and 15 – AC/DC Power Input

Auto-sensing AC/DC power supply. For voltages between 85-265 V AC/95-370 V DC (PS1) or 18-48 V AC/10-72 V DC (PS2).

- Pin 14 AC/DC Neutral. Neutral power supply line.
- Pin 15 AC/DC line. Live power supply line.

Optional Carrier Board Output Pins

Pins 16 and 17 – Analog Output

Pins 16 and 17 are the analog output pins on the optional output module. Their pin definitions are:

- Pin 16 Positive (+) analog output.
- Pin 17 Negative (-) analog output.

Connector Pinouts continued

Pins 18 to 21 – Rear Panel Function Pins

Pins 18 to 21 provide functions that can be implemented with an external switch. Their pin definitions are:

Pin 18 DIM. By connecting the display dim (DIM) pin to the COMMON pin, the display brightness setting is halved.

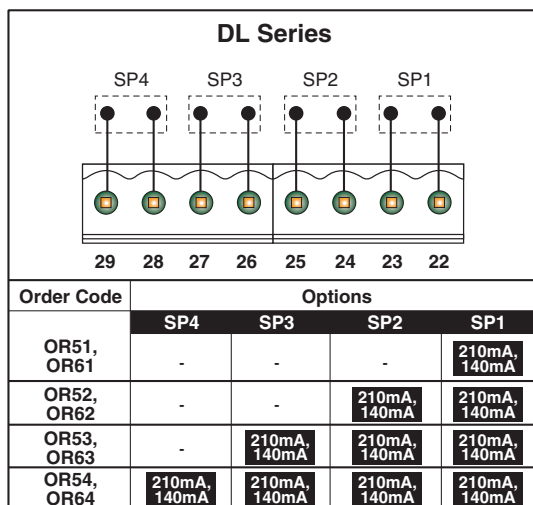
Pin 19 COMMON. To activate the LOCK or DIM functions from the rear of the meter, the respective pins have to be connected to the COMMON pin. This pin is connected to the internal power supply ground.

Pin 20 HOLD. By connecting the HOLD pin to the COMMON pin, the displayed reading is frozen, however, A/D conversions continue. When the HOLD pin is disconnected from the COMMON pin, the correct reading is displayed.

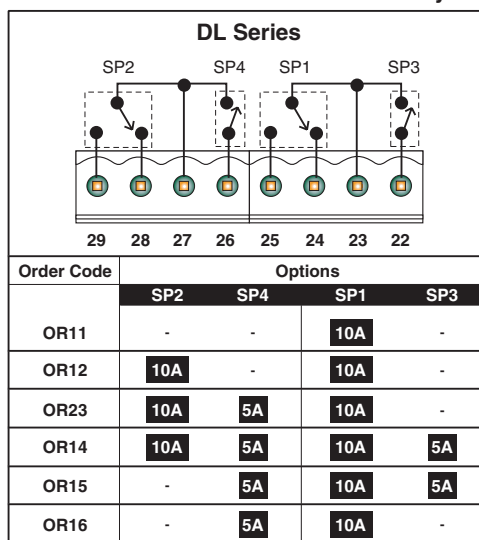
Pin 21 LOCK. By connecting the LOCK pin to the COMMON pin, the meter's programmed parameters can be viewed but not changed.

Pins 22 to 29 – Output Module Pins

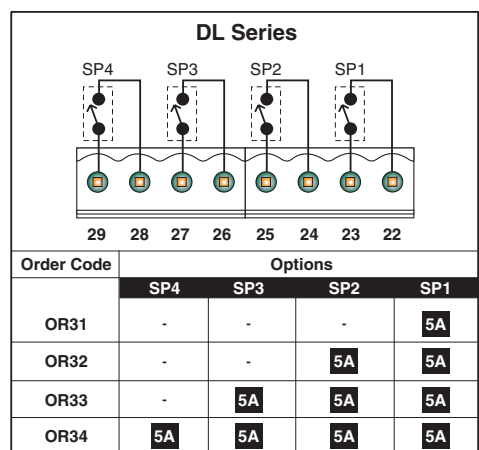
Relay Modules with 4 Independent 400V (210mA DC only) or (140mA AC/DC) SSRs



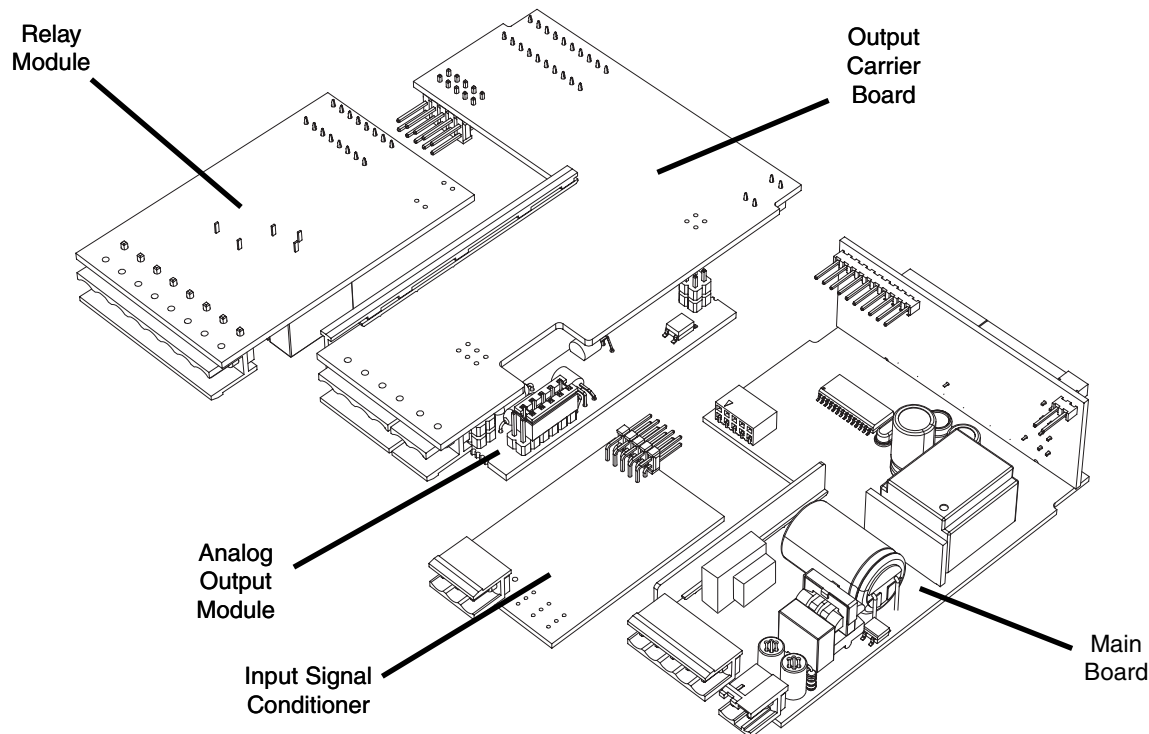
Relay Modules with 2 Non-Isolated 5A Form A Relays, and 2 Non-Isolated 10A Form C Relays



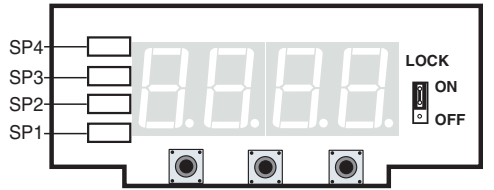
Relay Modules with 4 Isolated 5A Form A Relays



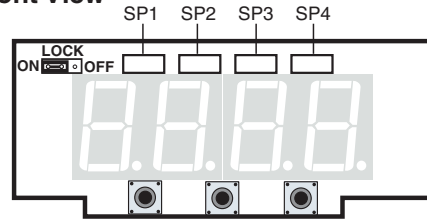
Component Layout



Display Board – Front View

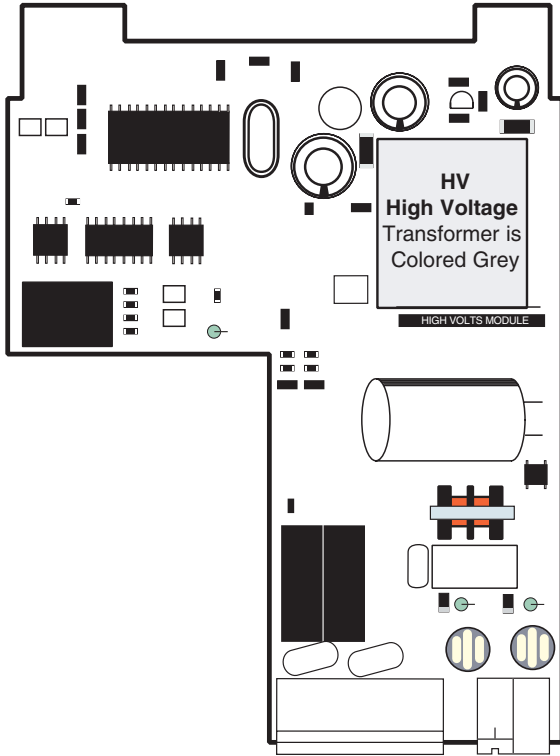


0.56" LED Display Board - Front View

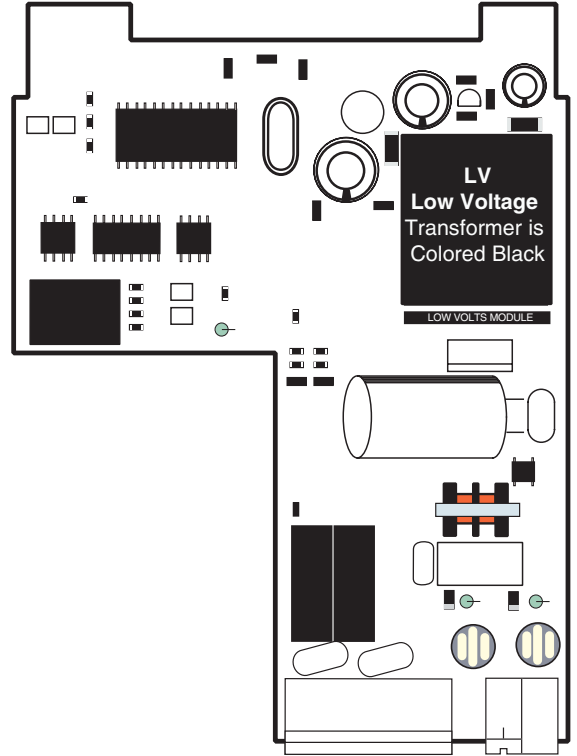


0.8" LED Display Board - Front View

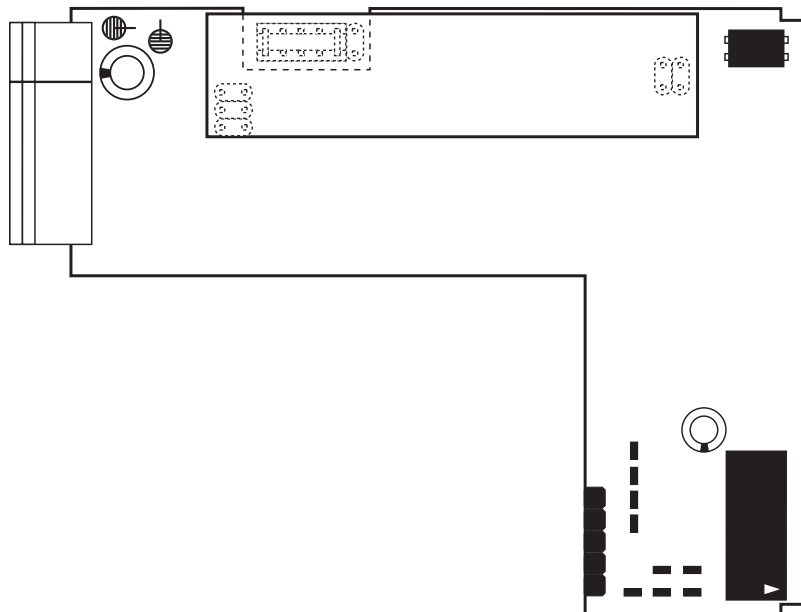
High Volt Main Board



Low Volt Main Board



Output Module Carrier Board



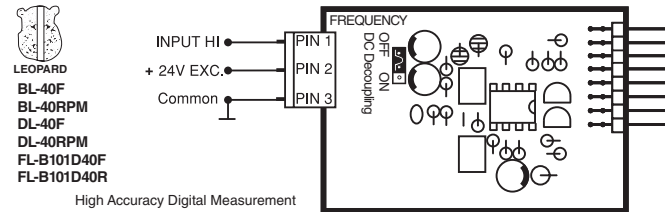
I-Series Input Signal Conditioning Modules

Symbols Indicate Module Compatibility Within Meter Families

	TIGER Family		TIGER Family		TIGER Family
	LEOPARD Family		LEOPARD Family		LEOPARD Family
	LYNX Family		LYNX Family		LYNX Family
ALL MODELS	SOME MODELS	MODEL SPECIFIC			

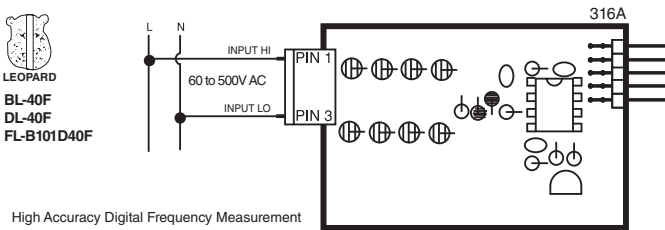
Unless otherwise specified Texmate will ship all modules pre-calibrated with factory preselected ranges and/or scalings as shown in **BOLD** type. Other pre-calibrated standard ranges or custom ranges may be ordered. Factory installed custom scaling and other custom options are also available (see Ordering Information, Special Options on last page).

IF05: Frequency with 24V Exc.

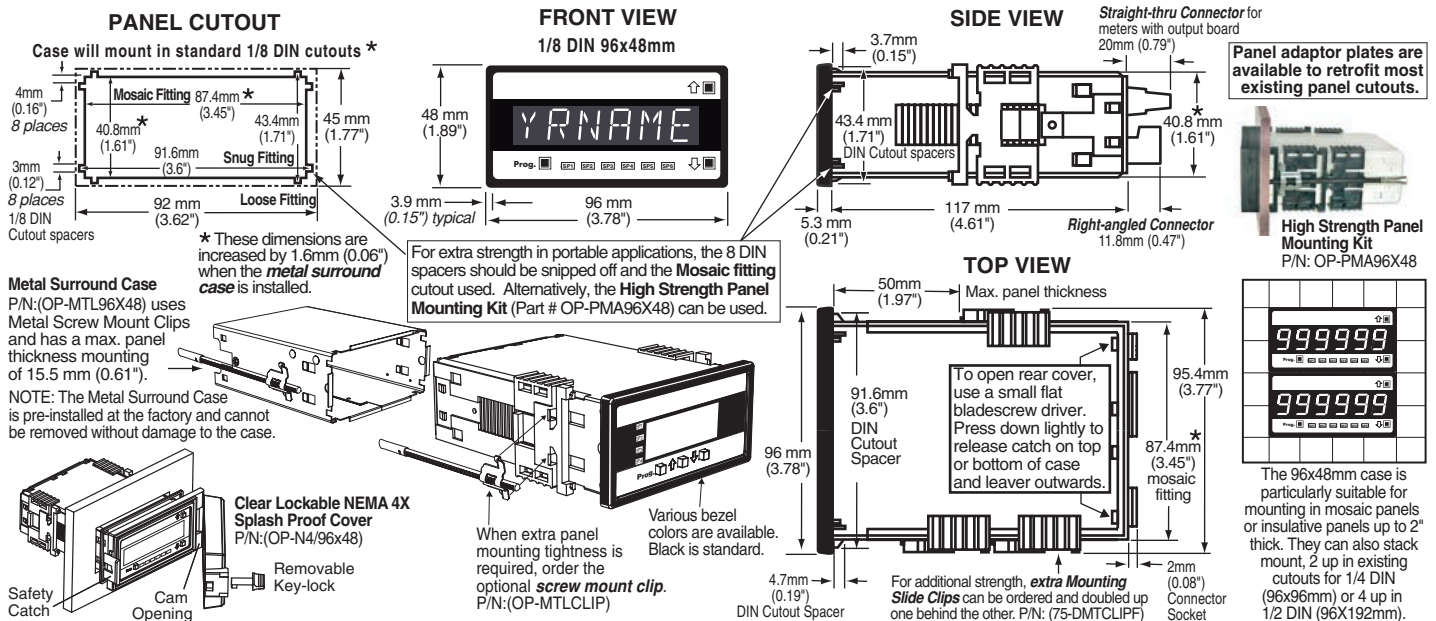


WARNING: AC and DC input signals and power supply voltages can be hazardous. Do Not insert, remove or handle modules with live wires connected to any terminal plugs.

IF08: Line Frequency



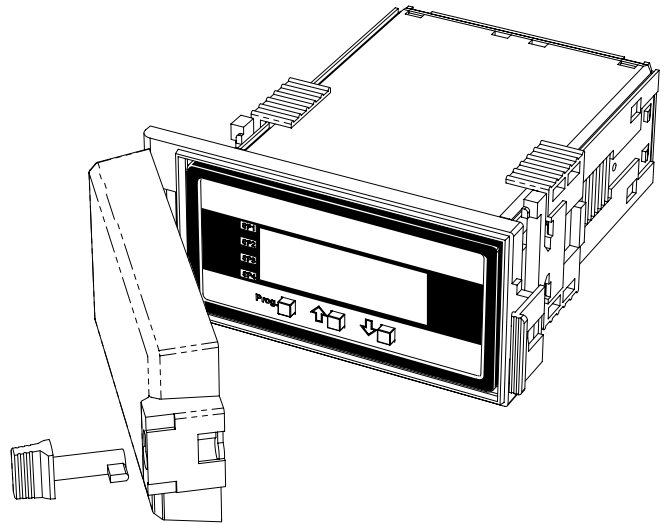
Case Dimensions



Lens Cover OP-N4X/96X48

The lens cover is designed to be dust and water proof to NEMA-4 standards. The lens cover consists of a base and cover with a cam hinge and key-lock locking device.

An O-ring, or neoprene gasket forms a seal between the base and the panel. The cam hinge prevents the cover from closing when opened until pushed closed. The cover has a tapered recess that, when closed, forms a capillary seal with a tapered ridge on the base. Turning the key-lock tightens the cover to the base, ensuring seal integrity. A safety catch keeps the cover closed even when the key is turned to the open position and removed. The keyhole can also be used to attach a safety seal clip, preventing unauthorized opening.

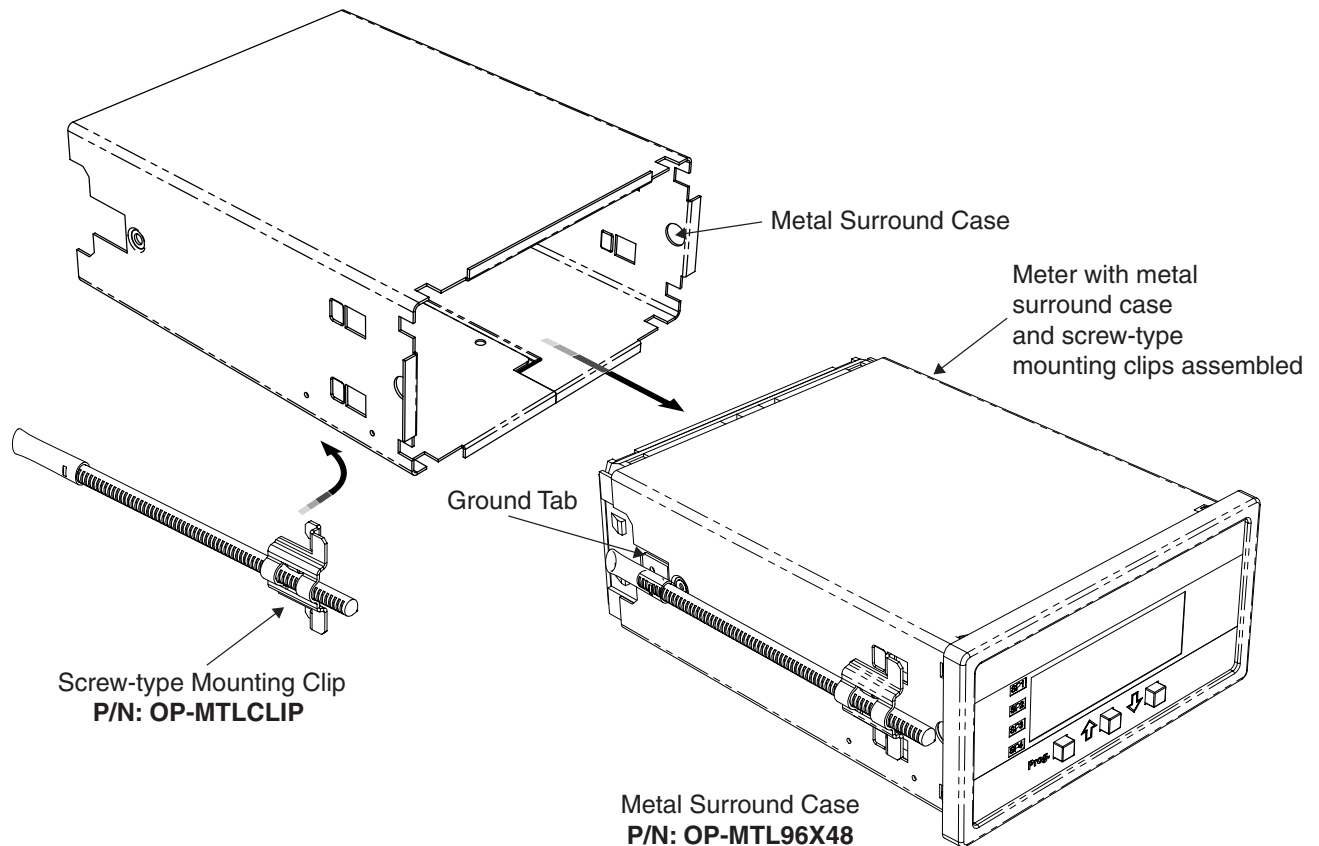


Metal Surround Case OP-MTL96X48

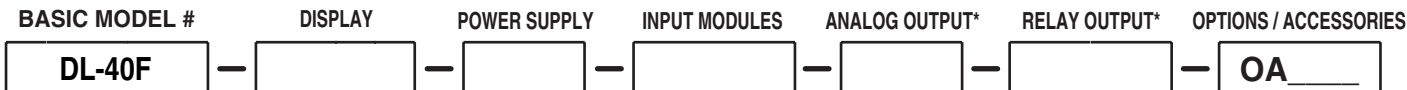
The meter's plastic case is made from fire retardant polycarbonate. A metal surround case can be ordered to enhance the meter's fire retardant capabilities and also provide shielding against electromagnetic interference (EMI). The metal case slides over the polycarbonate case and is held firmly in place by spring-type non-return clips. Once the metal case has been fitted to the polycarbonate case it cannot be removed.

With the metal case in place, the meter's plastic ratchet-type mounting clips can no longer be used. A pair of screw-type mounting clips are inserted into holes on the side of the metal case and used to mount the meter in the panel. A ground tab on the metal case provides a ground connection between the meter's main board and the metal case.

* Metal Surround Case must be factory installed.



Ordering Information



Add to the basic model number the order code suffix for each standard option required. The last suffix is to indicate how many different special options and or accessories that you may require to be included with this product. *Except when when R1 or R2 relay output is selected, a meter ordered with an analog output or a relay output module requires an Output Module Carrier Board which should be automatically included with the order, with an additional charge of \$7. (See Special Options and Accessories section)

Ordering Example: DL-40F-DR-PS1-IA01-AIC-R1-OA2, the 2 OA's are, CR-CHANGE and a OP-N4X/96X48, \$110 + N/C + N/C + 35 + 35 + 30 + 5+ 20 = \$235

► BASIC MODEL NUMBER

DL-40F 96x48mm, Leopard, 4 Digit, Frequency/RPM \$110

Standard Options for this Model Number

Order Code Suffix	Description	List
► DISPLAY		
DR	Red LED, 0.56 inch high	N/C
DB	Super-bright Red LED, 0.56 inch high	\$.25
DG	Green LED, 0.56 inch high	\$.10
LG	Large Green LED, 0.8 inch high	\$.45
LR	Large Red LED, 0.8 inch high	\$.35

► POWER SUPPLY

PS1 . . . 85 - 265VAC / 95 - 370VDC N/C
PS2 . . . 15 - 48VAC / 10 - 72VDC \$35

► INPUT MODULES (Partial List. See www.texmate.com)

Unless otherwise specified Texmate will ship all modules precalibrated with factory preselected ranges and/or scalings as shown in BOLD type.

IF05 . . . Frequency with 24V Excitation. 99.99/999.9/9999Hz \$45
IF08 . . . Line Frequency \$45

► ANALOG OUTPUT *Add \$7 for an Output Module Carrier Board

AIC Isolated 16 Bit Current Output, 0-20mA and 4-20mA, pls. specify . . . \$35
AIV Isolated 16 Bit Voltage Output, 0-10VDC \$35

► RELAY OUTPUT

Note: R1 and R2 are located on the main board, and are generally used when only two Form A Relays or less are required and an Analogy Output is not required.

R1 Single 5A Form A Relay \$30
R2 Dual 5A Form A Relays \$55

► RELAY OUTPUT MODULES

Note: If a meter is ordered with a Relay Output Module, but without Analog Output, an Output Module Carrier Board for \$7 should be automatically added to the order.

OR11 . . . One 10 Amp Form C Relay, Isolated \$30
OR15 . . . One 10 Amp Form C and Two 5 Amps Form A Relays \$75
OR16 . . . One 10 Amp Form C and One 5 Amp Form A Relays \$55
OR12 . . . Two 10 Amp Form C Relays, Isolated \$60
OR14 . . . Two 10 Amp Form C and Two 5 Amps Form A Relays \$105
OR23 . . . Two 10 Amp Form C and One 5 Amp Form A Relay, Isolated \$85
OR31 . . . One 5 Amp Form A Relay, Isolated \$25
OR32 . . . Two 5 Amp Form A Relays, Isolated \$50
OR33 . . . Three 5 Amp Form A Relays, Isolated \$70
OR34 . . . Four 5 Amp Form A Relays, Isolated \$90

Solid State Relay (SSR) Output Modules DC Only

OR51 . . . One 400V DC Solid State Relay (SSR) 210mA \$25
OR52 . . . Two 400V DC Solid State Relays (SSR) 210mA \$50
OR53 . . . Three 400V DC Solid State Relays (SSR) 210mA \$70
OR54 . . . Four 400V DC Solid State Relays (SSR) 210mA \$90

Solid State Relay (SSR) Output Modules AC/DC

OR61 . . . One 400V AC/DC Solid State Relay (SSR) 140mA \$25
OR62 . . . Two 400V AC/DC Solid State Relays (SSR) 140mA \$50
OR63 . . . Three 400V AC/DC Solid State Relays (SSR) 140mA \$70
OR64 . . . Four 400V AC/DC Solid State Relays (SSR) 140mA \$90

Special Options and Accessories (OA's)

Part Number	Description	List
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► SPECIAL OPTIONS (Specify Inputs or Outputs & Req. Reading) Output Module Carrier Board

*One carrier board must be ordered with any meter that includes any one or more of the following options: Analog Output and/or Relay Output Modules.

SA-DL/OM-CB	Output Module Carrier Board, DL series	\$.7
CR-CHANGE	Range Change from Standard Range shown in BOLD type	\$.7
CS-3/3.5/4	Custom display scaling within standard ranges	\$.12
COA-3/3.5/4	Custom scaling of analog output for digital meters & bargraphs	\$.12
CCL-SETUP	NRC to set-up Custom Configuration file and issue serial #	\$.40
CCL-INSTL	Installation of custom configuration, specify serial # CCL-	\$.10
CSR-SETUP	NRC to set-up custom selectable range	\$.30
CSR-INSTL	Factory installation - custom configuration, specify serial # CSR-	\$.10
CSS-SETUP	NRC to set-up custom special scaling	\$.30
CSS-34/INSTL	Installation - for 3.5 and 4.0 meters, specify serial # CSS-	\$.20
COR-SETUP	NRC to set-up Relays in non-standard locations	\$.15
COR-INSTL	Installation - Relays in non-standard locations, specify serial # COR-	\$.10

► ACCESSORIES (Specify Serial # for Custom Artwork Installation)

75-DBB29648F	Black Bezel for 96x48mm Case	\$.2
75-DMTCLIPF	Side Slide Brackets (2 pc) - extra set, extra strength	\$.2
76-DL40G-N4	"Touch" Green LED Faceplate, NEMA 4, Factory install	\$.8
76-DL40LG-N4	"Touch" Large Green LED Faceplate, NEMA 4, Factory install	\$.8
76-DL40LR-N4	"Touch" Large Red LED Faceplate, NEMA 4, Factory install	\$.8
76-DL40R-N4	"Touch" Red LED Faceplate, NEMA 4, Factory install	\$.8
ART-FS-S/D/C	NRC for artwork & set-up Faceplate/Desc/Co. Logo	\$.75
ART-FS-S/D	NRC for artwork & set-up Faceplate/Desc	\$.35
ART-FS-001	Install Custom Faceplate per meter - 1 color	\$.10
OP-MTLCLIP	Screw Mounting Clips (2 pc) - to screw tighten slide brackets	\$.6
OP-MTL96X48	Metal Surround Case, includes screw mounting clips	\$.16
OP-N4X/96X48	.96x48mm clear lockable front cover-NEMA 4X, splash proof	\$.20

Prices subject to change without notice.

WARRANTY

Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which shall, within the applicable period after shipment, be returned to Texmate's facility, transportation charges pre-paid, and which are, after examination, disclosed to the satisfaction of Texmate to be thus defective. The warranty shall not apply to any equipment which shall have been repaired or altered, except by Texmate, or which shall have been subjected to misuse, negligence, or accident. In no case shall Texmate's liability exceed the original purchase price. The aforementioned provisions do not extend the original warranty period of any product which has been either repaired or replaced by Texmate.

USER'S RESPONSIBILITY

We are pleased to offer suggestions on the use of our various products either by way of printed matter or through direct contact with our sales/application engineering staff. However, since we have no control over the use of our products once they are shipped, NO WARRANTY WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHERWISE is made beyond the repair, replacement, or refund of purchase price at the sole discretion of Texmate. Users shall determine the suitability of the product for the intended application before using, and the users assume all risk and liability whatsoever in connection therewith, regardless of any of our suggestions or statements as to application or construction. In no event shall Texmate's liability, in law or otherwise, be in excess of the purchase price of the product.

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Texmate has facilities in Japan, New Zealand, Taiwan, and Thailand. We also have authorized distributors throughout the USA and in 28 other countries.

For product details visit www.texmate.com

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