3700A SERIES

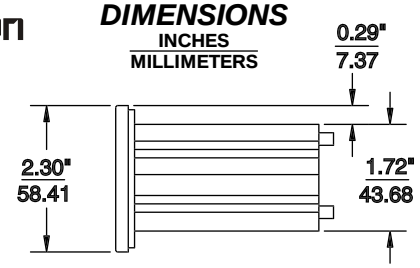
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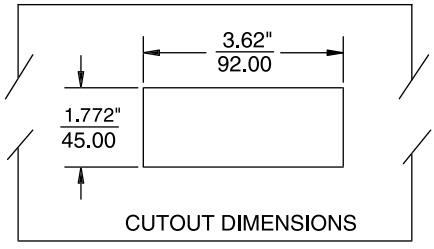
Intelligent High Speed, High Resolution
Single and Dual Channel Panel Meters

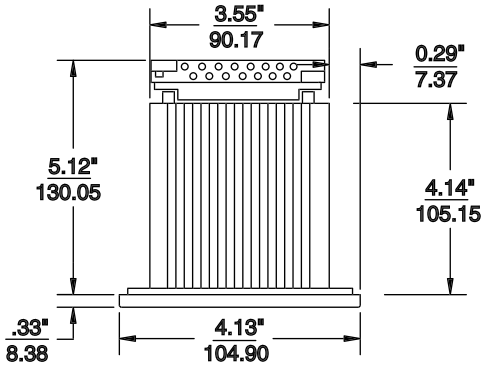


DIMENSIONS

INCHES
MILLIMETERS







Standard Screw Terminal

FEATURES

7M26
UL508

- **6-Digit Red LED Display**
- **20-point Linearization**
- **Tare gross/net operation**
- **Dual Scale setup (English/Metric)**
- **Math Channel**
- **1/8 DIN extruded aluminum case**
- **NEMA 4X Rated Front**
- **Shunt Calibration Scaling**
- **No Calculation Scaling**
- **Calibrated Load Scaling**
- **25/sec Analog Output**
- **User Programmable Keys and Remote Inputs**
- **Relay for Alarm/shunt Calibration**
- **3 Types of Calibration**
- **Up to 4 Relay Outputs**

USER - calibration allows the entry of the low and high input values and he corresponding low and high display engineering values.

LOAD - calibration allows setup via known input values. Simply apply the low input and set its corresponding display value, then apply the high input and set its value. The low and high values can be programmed at different times and then enabled.

SHUNT - calibration allows setup via an external shunt calibrator resistor. Simply set the display low value and the shunt cal display value, then the meter will automatically measure the unloaded bridge for the zero value; then closed the internal hunt cal relay and measures the shunt calibrated input.

3722A ADDITIONAL FEATURES

- **Two input channels and third math channel**
- **Independent setup and scaling for all 3 channels**



STANDARD TERMINAL
30-Pin Double Sided
Screw Terminal (X Option)

GENERAL DESCRIPTION

PROGRAM MENU STEPS LOCKOUT

The user can program the majority of the menu steps to not be accessible. This simplifies the programming of the meter allowing only necessary menus to be displayed in the SETUP mode. The meter can initially be configured to the desired setup, and then the user can lockout all the unnecessary menu steps.

STANDARD FEATURES:

3 TYPES OF CALIBRATION

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PROGRAM MENU STEPS LOCKOUT

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AUTOTARE

This function allows the user to set the selected display/input to zero. It can be performed via a front panel key or remote input. Setup is available to switch the display from net to gross.

NET/GROSS

The net value or the gross value can be displayed via a front panel key or remote input. Alarm limits, analog out or peak values may be assigned to the net or gross values.

FINE OFFSET

An offset/zero adjust can be programmed for channel one and two from the RUN mode. This allows for a direct zero offset to be programmed to compensate for system setups and changes. When this mode is enabled by pushing the ENTER and DOWN key at the same time, the current value for the selected channel is displayed. This value can then be changed to a new display value by using the arrow keys to enter the exact value desired.

FINE SCALE

The span for channel one or channel two can be fine tuned from the RUN mode via the fine scale function. This allows for a direct correction of the span value without recalibrating. When this mode is enabled by pushing the ENTER and UP keys at the same time, the current live display for the selected channel is shown. This live value can then be changed to the desired value by pushing the UP key to increase or the DOWN key to decrease the display.

20-POINT LINEARIZATION

U-plot 20-point linearization allows the user to program up to 20 known values of non-linear curvature along with the corresponding display readings. Typical uses are for non-linear outputs from transducers, load cells, etc. and for display of volume in non-linear storage vessels.

MATH CHANNEL

The 3700A series comes with an extra channel that is a non input channel. This can be used to duplicate an input channel for completely new scaling and alarm setups. The two channel input model 3722A can be used to perform A + B, A – B or A ÷ B math functions. (Consult ATC for your special equations)

SECOND SCALE

This function allows the user to set a second scaling to the input. The input will then be displayed in two engineering units (typically for English/Metric displays).

PEAK 1 AND PEAK 2

Peak 1 and peak 2 are both assignable to capture the maximum or minimum display value. They are assignable to any channel and the net or gross value. It can be reset through a front panel key or remote input. Capture rate is 25/sec.

PROGRAMMABLE LOCKOUT CODE & PASSWORD

A 2-digit access code for set-up is programmable. Setup can also be protected via a remote input.

DIGITAL FILTER

This function allows the user to select a math filter. This is used for noisy, unstable inputs.

DEFAULT

The 3700A series allows the meter to be reset to the factory setup ***or to the user defined setup.*** This function allows easy reset to predetermined setup program.

ALARMS

Each meter is standard with 4 programmable alarms that control the front panel LED status and the one standard relay and optional 3 relay outputs.

Each alarm is:

- Assignable to any channel
- Programmable for high or low limit
- Programmable setpoint value
- Programmable hysteresis for complete display range
- Programmable for latching
- Programmable to Flash Display on alarm
- Alarm #1 is programmable for fail safe operation for all the alarms. (Fail safe operation allows the relay to de-energize on loss of power.

NON-VOLATILE MEMORY

All setup data entered by the user is stored in a non-volatile memory. No batteries needed and no need to re-program the meter after power down.

RELAY OUTPUT

1 Form A relay 240VAC @ 1A, is provided standard for use as an alarm output or shunt cal relay.

DISPLAY

6 Digit .56" Red LED display for readings of -199999 to 999999 with selectable decimal points.

INPUT

- Process inputs of plus and minus inputs of 30mV, 100mV, 200mV, 2V and 10V. 20mA input is solder selectable on main board.

Display and outputs are updated at selected resolution.

DISPLAY UPDATE

50/sec Fixed.

EXCITATION

Optional: 10VDC @ 250mA, 24 VDC @ 150mA. Consult factory for 5 VDC @ 100mA..

SPECIFICATIONS

	4-20 mA +/-	30 mV +/-	100 mV +/-	200 mV +/-	2V +/-	10 V
Accuracy	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Zero Drift	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Span Drift	10 ppm/°C	10 ppm/°C	10 ppm/°C	10 ppm/°C	10 ppm/°C	10 ppm/°C
Input Impedance	50 Ohms	10 Mohm	10 Mohm	10 Mohm	10 Mohm	10 Mohm
4 1/2 Digit Resolution	1 uA	1 uV	10 uV	10 uV	100 uV	1 mV
Over-range Capability, minimum	10%	10%	10%	10%	10%	10%
Display Update	50/sec, Dual Channel - 35/sec.					
Normal Mode Rejection Ratio	63 dB					
Common Mode Rejection Ratio	130 dB					
Analog Response Time	25/sec Analog Output					
Internal Resolution	22 bits					
Relay Update	35/sec					
Digital Filter	60 Hz					
Warm Up Time	15 minutes					
Operating Temp Range	-20°C to 60°C					
Storage Temp Range	-20°C to 85°C					
Humidity	to 95%, non-condensing					
AC Supply Voltage	115/230 VAC					
Power Consumption	15 Watts maximum					
Isolation						
Signal Input to Earth Ground:	Safety rated to 450 Vrms, 2200 Vp high voltage test					
Option board to Earth Ground:	Safety rated to 450 Vrms, 2200 Vp high voltage test					
Option board to Signal Input:	400 Vp					
Power to Earth Ground:	Safety rated to 500 Vrms, 4000 Vp high voltage test					
Weight	.84 lbs.					

SETUP MODE KEY FUNCTIONS:



SELECT Key - Moves decimal point location, selects the choice of the functions within the current menu or allows the selection of the digit to be changed.

UP Arrow Key - Increases the current value of the flashing digit by one unit per press.

DOWN Arrow Key - Decreases the current value of the flashing digit by one unit per press.

EXIT Key - Returns you to RUN mode when at main menu or returns you to main menu prompt when in programming menu.

ENTER KEY - Enters selected main program branch. Moves you down in the program menus. Enters selected choice to memory.

The F1-F4 front panel run-time keys can be programmed for any of the following:

- ALARM 1 View and Set
- ALARM 2 View and Set
- ALARM 3 View and Set
- ALARM 4 View and Set
- Channel 1 Tare/Auto zero
- Channel 2 Tare/Auto zero
- Channel 3 Tare/Auto zero
- Channel 1 Display
- Channel 2 Display
- Channel 3 Display
- Reset
- Scale 2 select
- Net / Gross select
- Shunt cal display / calibration
- Peak 1 display
- Peak 2 display

There are also four remote input function selections:

- Lock out
- Channel 1 display
- Channel 2 display
- Channel 3 display
- Scale 2
- Decimal point selection
- Peak 1
- Peak 2
- Reset
- Net/gross
- Alarm disable

OPTIONS

C 3 each Form-C, SPDT relays rated at 5A @ 240 VAC, 5A @ 30 VDC

CH Combination of Option C and Option H

CP Combination of Option C and Option P

F Factory scaling calibration (user provides input range and display range)

H 16 bit analog output-menu selectable for 0-20mA, 4-20mA, 0-10V, 0-5V, -5V - +5V

P Excitation output voltage supplies 24 VDC @ 150mA, 10 VDC @ 250mA supply

T RS232C Bidirectional serial communication @ 9600 baud, no parity, 8 data, 1 stop bit

***Includes Option P

SINGLE CHANNEL MODEL

Model Number:

3720A Single channel • 1/8 DIN • 6-Digit LED • NEMA 4X • 20-Point Linearization

Input Board:

3720A-01 input board for single channel (switch selectable ±30mV, 100mV, 200mV, 2V, 10V, 20mA)

Output Options:

- **C** 3 relays (Form C for Alarms)
- **CH** Combination of Option C and Option H
- **CP** Combination of Option C and Option P
- **F** Factory Scaling (provide input range, display range)
- **H** 16 bit analog output—includes Option P
- **P** Excitation supply (10 VDC, 24 VDC)
- **T** RS232 Communication

3720A-01 C is a single input meter with 3 relays (4 total).

DUAL CHANNEL MODEL

Model Number:

3722A Dual channel • 1/8 DIN • 6-Digit LED • NEMA 4X • 20-Point Linearization • Third math channel

Input Board:

3722A-01 input board for dual channel (switch selectable ±30mV, 100mV, 200mV, 2V, 10V, 20mA)

Output Options:

- **C** 3 relays (Form C for Alarms)
- **CH** Combination of Option C and Option H
- **CP** Combination of Option C and Option P
- **F** Factory Scaling (provide input range, display range)
- **H** 16 bit analog output—includes Option P
- **P** Excitation supply (10 VDC, 24 VDC)
- **T** RS232 Communication

3722A-01 C is a single input meter with 3 relays (4 total).

ORDERING INFORMATION

3720A - 01 X X X

MODEL NUMBER

3720A Single channel • 1/8 DIN • 6-Digit LED • NEMA 4X • 20-point Linearization

3722A Dual Channel • 20-point Linearization • 1/8 DIN • 6-Digit LED • NEMA 4X • Third math channel

OUTPUT OPTIONS

C
CH
CP
F
H
P
T

Choose Combination from Options List