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TDE Instruments

Version 2012-01

DPM802

Bedienungsanleitung
Instructions manual
Instructions d'utilisation
Manual de utilizacion
Istruzioni per l'uso

Digitalmultimeter für Schalttafeleinbau
Panel Mount Digital Multimeters
Multimètres Numériques montés sur bandeau
Multímetros digitales montados en panel
Voltamperometri digitali per montaggio su pannelli



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1. Beschreibung

3 3/4-stelliges digitales Volt- und Ampèremeter Einbauinstrument mit LCD Anzeige, LED Beleuchtung, zusätzlicher 40 Segment Bargraphanzeige, Low Bat Anzeige und RS232 Schnittstelle. Instrument konfigurierbar für AC oder DC Messung.
Dieses Instrument hat eine automatische Bereichsumschaltung bei einem Messbereich von 400mV bis 300V, sowie einen wählbaren Eingangsstrommessbereich von 1µA bis 10A. Min. & max. Werte werden abgespeichert und können abgerufen werden. Die Versorgungsspannung beträgt 5V bis 16V DC.

2. Sicherheitshinweise

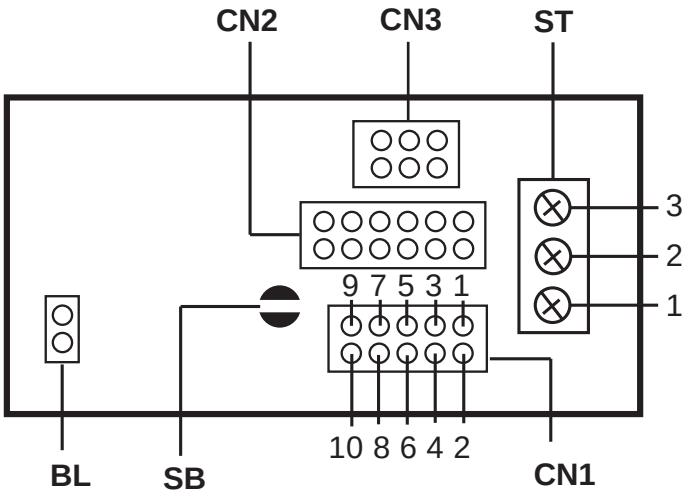
⚠ **Die maximale Spannung, die an den Messeingängen angelegt werden darf ist 300V. INLO (0 V) ist intern an VSS (0 V) angeschlossen.**

Hinweis:
Die Signalleitungen, die an dieses Gerät angeschlossen werden, dürfen eine Gesamtlänge von 30m nicht überschreiten. Werden Signalleitungen ausserhalb von Gebäuden verlegt, müssen zusätzliche Schutzmassnahmen gegen Surge Störimpulse vorgesehen werden.

3. Technische Daten

Anzeige
Ziffernhöhe 11 mm; 40-Segment Balkenanzeige; Vornullenunterdrückung; Low Bat; x10, x100, DC, AC, µ, m, A, V, MIN, MAX
Eingangsbereich
± 0,1 mV bis 300 V; ± 0,1 µA bis 10 A
Genauigkeit
DC: V, µA, mA: ±1%
DC: A: ±3%
AC: 40–650 Hz: V, µA, mA: ±1%; A: ±3%
AC: 650–2700 Hz: ±5%
Linearität
± 0,1% Vollskala
Musterrate
1 Sek.
Eingangsimpedanz
V: 10 MΩ
0 bis 399,9 µA: 500 Ω
400 bis 3999 µA: 50 Ω
0 bis 39,9 mA: 5 Ω
40 bis 399,9 mA: 0,5 Ω
0 bis 10 A: 0,005 Ω
Anschlüsse
Messeingang: Schraubanschlüsse für Kabel bis zu 1,5 mm²
Versorgung und Steuerung
2 x 5-polig 0,1" Abstand
Steuerungseingänge
Nur Sink oder Kontakt
RS232-Ausgang
2400 Baud, 7 Bit, ungerade Parität, 1 Stoppbit
Versorgung
5 bis 16 VDC ± 10%, max. 15 mA
Hintergrundbeleuchtung
5 bis 8 VDC oder 12 VDC ±0.5V; max. 110mA
Installationskategorie (IEC 664)
Überspannungskategorie II
Verunreinigungsgrad 2 (IEC 64)
Betriebstemperatur
0°C bis +60°C
Lagertemperatur
-20°C bis +70°C
Umgebungsschutz
IP50
Höhe
bis zu 3000 m
Relative Luftfeuchtigkeit
max. 85% nicht kondensierend

4. Leiterplatte



5. Konfiguration AC oder DC Messung an Lötbrücke SB

SB offen = DC
SB geschlossen = AC

6. Anschluss Versorgung und Steuerung an Stiftleiste CN1

1 VDD 5 VDC bis 16 VDC
2 VSS 0 V
3 Hintergrundbeleuchtung BL+
4 Hintergrundbeleuchtung BL-
5 Gemeinsame Basis
6 *nicht angeschlossen*
7 Gemeinsame Basis
8 MAX/MIN
9 RS232-Trigger
10 RS232-Ausgang

7. Anschluss Versorgung Hintergrund-beleuchtung an CN1

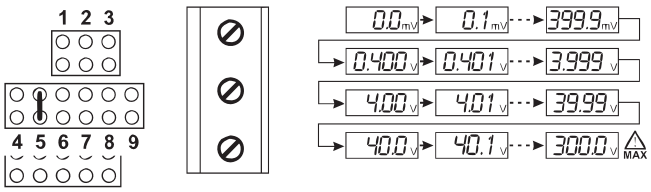
3 5 bis 8 VDC **(Steckbrücke an BL setzen)** oder 12 VDC.
4 0 V

8. Anschluss Messeingang an Schraub-klemmen ST

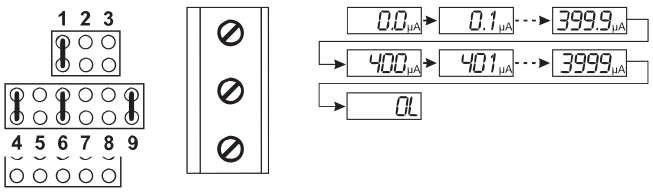
1: INHI
±0,1 mV bis 300,0 V
±0,1 µA bis 3999 µA
±0,01 mA bis 399,9 mA
2: INHI
±0,01 A bis 10,0 A
3: INLO
0 V

9. Konfiguration Messbereich an CN2 und CN3

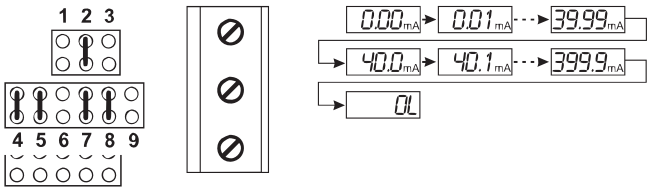
±0.1mV - 300.0V



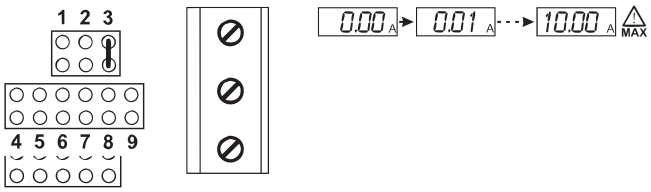
±0.1µA - 3999µA



±0.01mA - 399mA

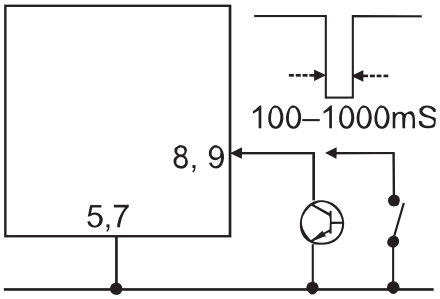


±0.01A - 10A



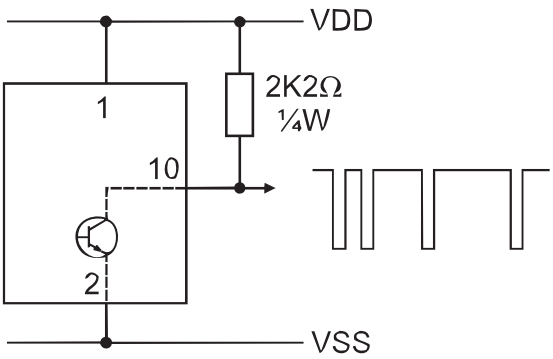
10. Steuerungseingänge

Gemeinsame Basis (Pin 5 und 7) wird auf -3V gehalten.
NUR an Pin 8 oder 9 anschliessen.



11. RS232 Ausgang

Einen Widerstand wie nachstehend gezeigt extern anschliessen.

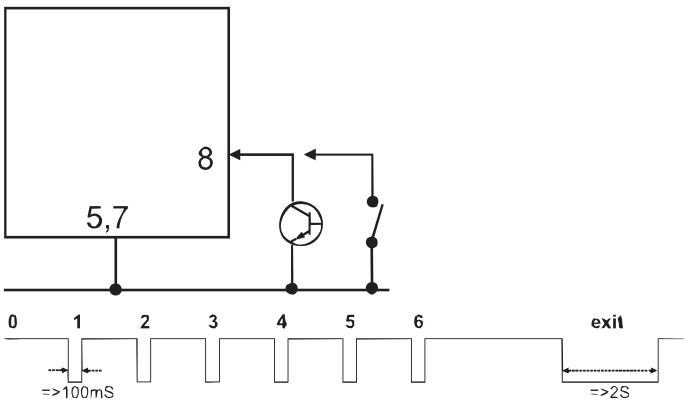


12. RS232 Trigger

Um den RS232 Datenstrom zu starten, Pin 9 kurzzeitig (100-1000 mS) mit Pin 5 oder Pin 7 verbinden. Um den Datenstrom zu stoppen Vorgang wiederholen.

13. MAX/MIN-Modus

Um den MAX/MIN-Modus zu starten, Pin 8 kurzzeitig (100 mS) mit Pin 5 oder Pin 7 verbinden. Um den MAX/MIN-Modus zu beenden Pin 8 kurzzeitig (2 S) mit Pin 5 oder Pin 7 verbinden.



0 aktueller Wert wird angezeigt
1 Zeigt vorherigen Höchstwert an
2 Zeigt vorherigen Mindestwert an
3 Zeigt aktuellen Wert an und beginnt mit der Aufzeichnung neuer Höchst- und Mindestwerte
4 Zeigt neuen Höchstwert an.
5 Zeigt neuen Mindestwert an.
6 Zeigt aktuellen Wert an und beginnt mit der Aufzeichnung neuer Höchst- und Mindestwerte.
usw.
exit Beendet MAX/MIN-Modus und zeigt aktuellen Wert an.

1. Introduction

3 3/4 digit volt- and ammeter with a 40 segment bargraph indication, LCD display, LED backlight, low bat indication, and RS232 interface.
The unit has a fully auto ranging voltage input to 300 V and a selectable 4 scale ammeter up to 10A. Powerded by 5 VDC up to 16 VDC and annunciators for units on display which include min. and max. functions. Unit can be configured for AC or DC measurement.

2. safety instructions

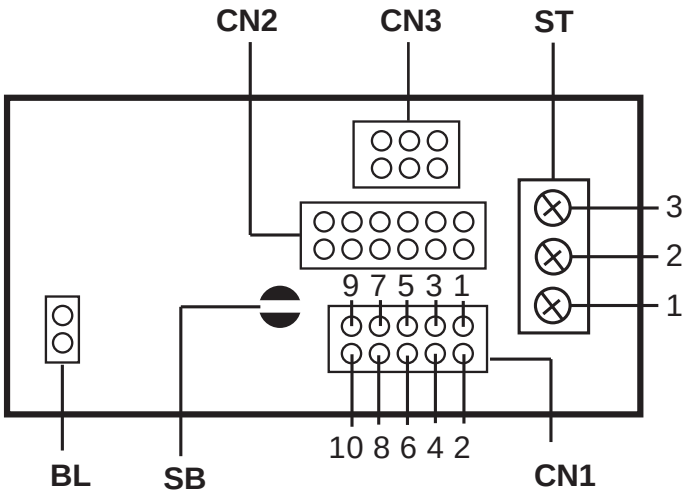
⚠ **The maximum voltage allowed for any connection to the PCB is 300V.**
INLO (0V) is internally connected to VSS (0V)

Note:
Any signal cables connected to this device must not exceed 30 metres in length.
If signal cables are installed that are routed outside the building, it will be necessary to install additional surge protection devices.

3. Specification

Display
Digits 11 mm; 40-Segment bargraph; Leading zero blanking; Low Bat; x10, x100, DC, AC, µ, m, A, V, MIN, MAX
Input Range
± 0,1 mV bis 300 V; ± 0,1 µA bis 10 A
Accuracy
DC: V, µA, mA: ±1%
DC: A: ±3%
AC: 40–650 Hz: V, µA, mA: ±1%; A: ±3%
AC: 650–2700 Hz: ±5%
Linearity
± 0,1% full scale
Sample Rate
1 sec.
Input impedance
V: 10 MΩ
0 bis 399,9 µA: 500 Ω
400 bis 3999 µA: 50 Ω
0 bis 39,9 mA: 5 Ω
40 bis 399,9 mA: 0,5 Ω
0 bis 10 A: 0,005 Ω
Connections
Messeingang: Schraubanschlüsse für Kabel bis zu 1,5 mm²
Power and control
2 x 5-way 0,1" spacing
Control inputs
Sink or contact only
RS232-output
2400 baud, 7 bit, odd parity, 1 stop bit
Supply
5 to 16 VDC ± 10%, max. 15 mA
Backlight supply
5 to 8 VDC or 12V DC ±0.5V; max. 110mA
Installation category (IEC 664)
Overvoltage category II
Pollution degree 2 (IEC 64)
Operating temperature
0°C to +60°C
Storage temperature
-20°C bis +70°C
Environmental protection
IP50
Altitude
Up to 3000 m
Relative Humidity
max. 85% non-condensing

4. PCB



5. Configuration AC or DC measuring at solder strap SB

SB open = DC
SB shorted = AC

6. Connections Supply and control at socket board at CN1

1 VDD 5 VDC to 16 VDC
2 VSS 0 V
3 Backlight supply BL+
4 Backlight supply BL-
5 Control common
6 *not connected*
7 Control common
8 MAX/MIN
9 RS232-trigger
10 RS232 output

7. Connection backlight supply at CN1

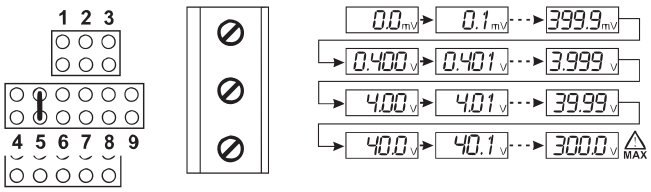
3 5 to 8 VDC **(set jumper at BL)** or 12 VDC.
4 0 V

8. Connection Input at ST

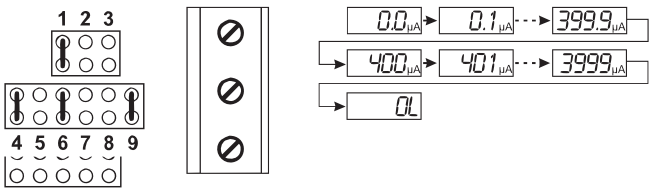
1: INHI
±0,1 mV to 300,0 V
±0,1 µA to 3999 µA
±0,01 mA to 399,9 mA
2: INHI
±0,01 A to 10,0 A
3: INLO
0 V

9. Configuration measuring range at CN2 and CN3

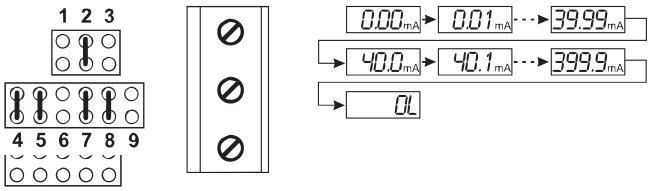
±0.1mV - 300.0V



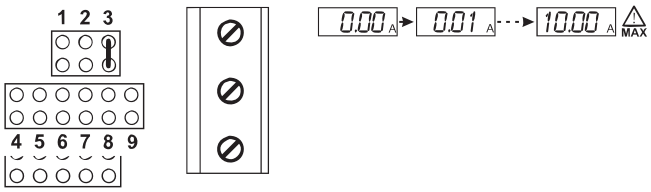
±0.1µA - 3999µA



±0.01mA - 399mA

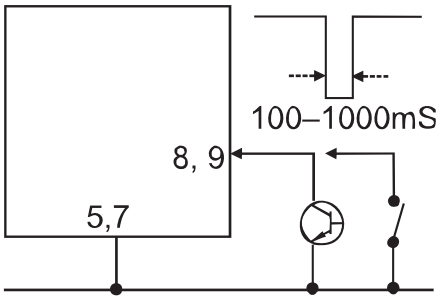


±0.01A - 10A



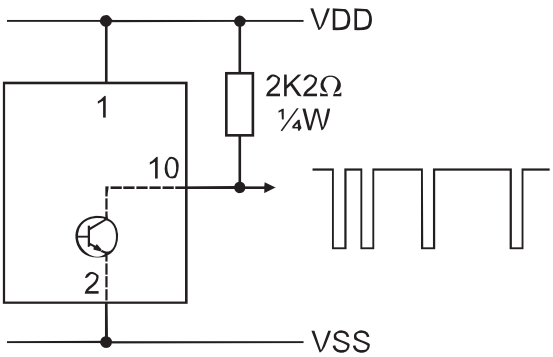
10. Control inputs

Control Common (pins 5 and 7) is held at –3V. Do **NOT** connect to any pin except pins 8 and 9.



11. RS232 output

Connect a resistor externally as shown below.

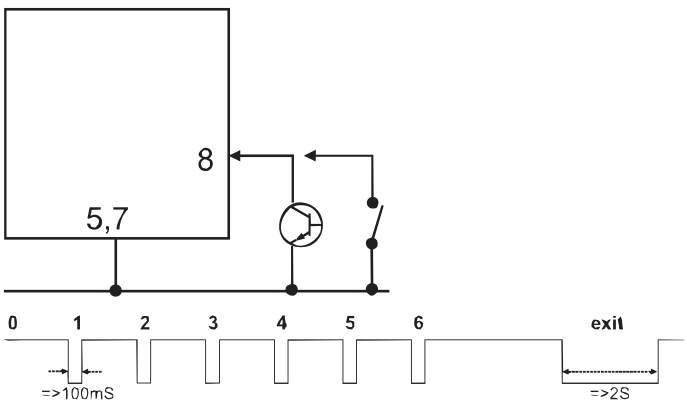


12. RS232 trigger

Connect Pin 9 with Pin 5 or Pin 7 (100 mS - 1000 mS) once to start the RS232 data stream.
Repeat process to stop.

13. MAX/MIN-Mode

Connect Pin 8 with Pin 5 or Pin 7 (100 mS) to start MAX/MIN-Modus.
Connect Pin 8 with Pin 5 or Pin 7 (2 S) to stop MAX/MIN-Modus.



0 Displaying current value.
1 Displaying current value.
2 Displays previous minimum value.
3 Displays current value and starts recording new. maximum and minimum values.
4 Displays new maximum value.
5 Displays new maximum value.
6 Displays current value and starts recording new. maximum and minimum values *etc.*
exit Displays current value and starts recording new maximum and minimum values.

1. Introduction

Multimètres analogiques/numériques à sélection automatique de gamme, pour montage sur panneau

2. Instructions de sécurité

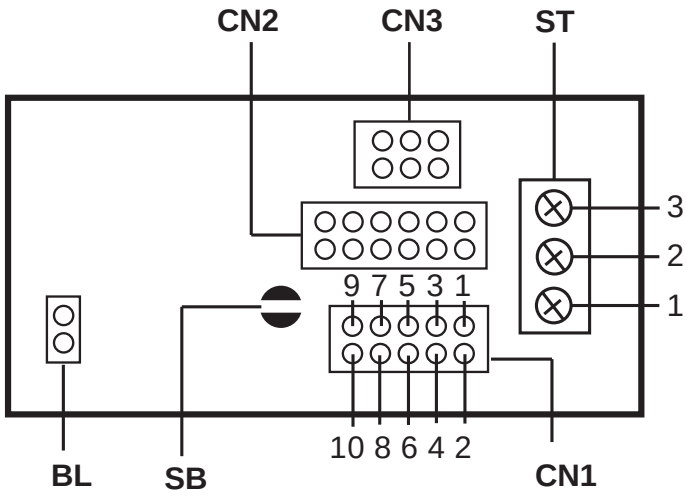
⚠ **La tension maximale admissible pour tout raccordement sur ce circuit imprimé est de 300V.**
INLO (0 V) connectée en interne à VSS (0 V)

Remarque:
La longueur de tout câble mesure (signal) raccordé à cet appareil ne doit pas excéder 30 mètres. Si les câbles « mesure » passent à l'extérieur du bâtiment, il est nécessaire d'installer des dispositifs additionnels de protections de surtensions.

3. Caractéristiques

Caractéristiques
Caractères 11 mm; Vumètre à barres, 40 segments; Remise à zéro de conduction; Indicateurs : pile faible, x10, x100, CC, CA, -, µ, m, A, V, MIN, MAX
Gamme d'entrée
± 0,1 mV à 300 V; ± 0,1 µA à 10 A
Précision
CC: V, µA, mA: ±1%
CC: A: ±3%
CA: 40–650 Hz: V, µA, mA: ±1%; A: ±3%
CA: 650–2700 Hz: ±5%
Linéarité
±0,1 % pleine échelle
Fréquence test
1 s.
Impédance d'entrée
V: 10 MΩ
0 à 399,9 µA : 500 Ω
400 à 3 999 µA : 50 Ω
0 à 39,9 mA : 5 Ω
40 à 399,9 mA : 0,5 Ω
0 à 10 A : 0,005 Ω
Raccordements
Entrée : Connexions à vis protège-doigts pour fil jusqu'à 1,5 mm².
Alimentation et commande :
2 x 5 voies, espacement de 0,1"
Entrées de commande
Collecteur ou contact uniquement
Sortie RS232
2 400 bauds, 7 bits, parité impaire, 1 bit d'arrêt
Alimentation
5 à 16 VCC ±10 %, 15 mA max
Rétroéclairage
5 à 8 VCC / 12 VCC ±0.5V sélectionnable, 110 mA max.
Catégorie d'installation (IEC664)
Catégorie surtension II
Degré de pollution 2 (IEC 64)
Température de fonctionnement
0°C à +60°C
Température de stockage
-20°C à +70°C
Protection environnementale
IP50
Altitude
usqu'à 3 000 m
Relative Humidity
85 % max., sans condensation

4. Cartes de circuits imprimés



5. Configuration AC ou DC mesure à SB

SB ouvert = CC
SB dérivés = CA

6. Raccordements Alimentation et commande à CN1

1 VDD 5 V CC à 16 V CC
2 VSS 0 V
3 Rétroéclairage BL+
4 Rétroéclairage BL-
5 Commande, commune
6 *non connectée*
7 Commande, commune
8 MAX/MIN
9 Déclencheur RS232
10 Sortie RS232

7. Raccordements Alimentation rétroéclairage à CN1

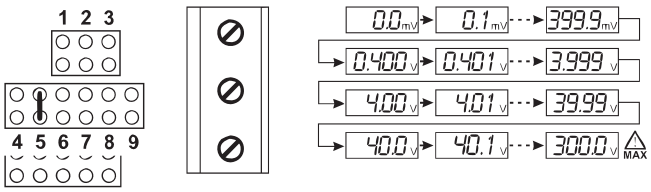
3 5 à 8 VCC **(placer pont à BL)** ou 12 VCC.
4 0 V

8. Raccordements Entrée à ST

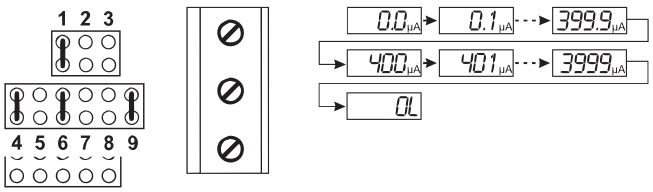
1: INHI
±0,1 mV à 300,0 V
±0,1 µA à 3999 µA
±0,01 mA à 399,9 mA
2: INHI
±0,01 A à 10,0 A
3: INLO
0 V

9. Configuration Gamme d'entrée CN2 et CN3

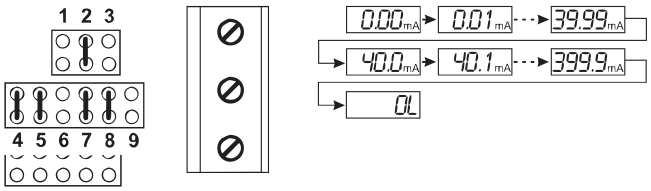
±0.1mV - 300.0V



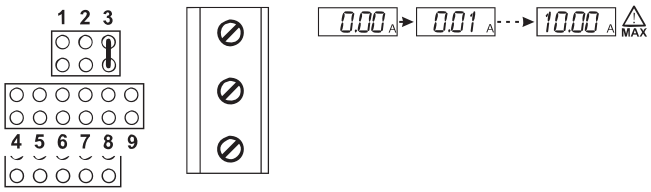
±0.1µA - 3999µA



±0.01mA - 399mA

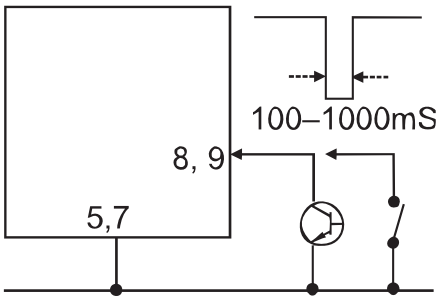


±0.01A - 10A



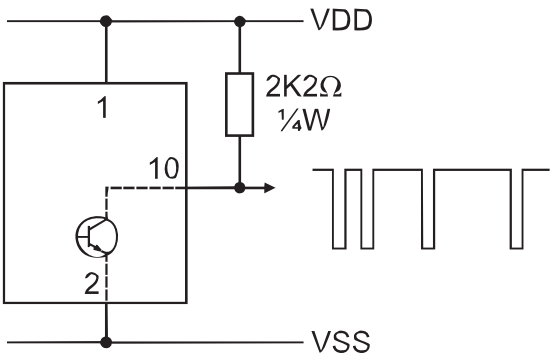
10. Entrées de commande

Commande commune (broches 5 et 7) à -3 V. **Ne PAS** connecter à quelque broche que ce soit, sauf aux broches 8 et 9.



11. Sortie RS232

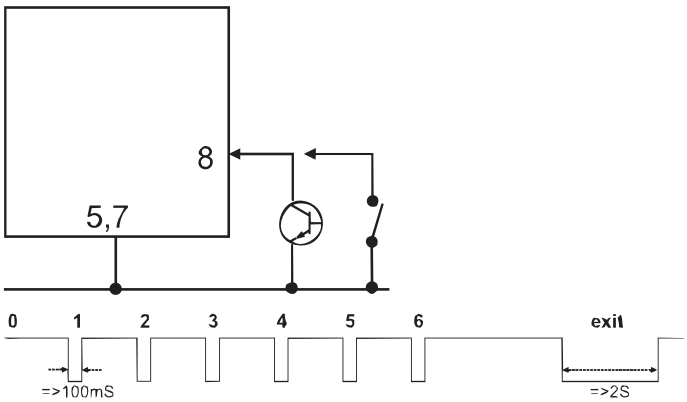
Brancher une résistance en externe, comme indiqué ci-dessous.



12. Déclencheur RS232

Brancher à la commande commune une fois, pour lancer le flux de données RS232. Brancher de nouveau à la commande commune pour arrêter.

13. Mode MAX/MIN



0 Affichage de la valeur actuelle
1 Affichage de la valeur maximale précédente
2 Affichage de la valeur minimale précédente
3 Affichage de la valeur actuelle et enregistrement des nouvelles valeurs maximales et minimales
4 Affichage de la nouvelle valeur maximale.
5 Affichage de la nouvelle valeur minimale.
6 Affichage de la valeur actuelle et enregistrement des nouvelles valeurs maximales et minimales. etc*c*
exit Quitte le mode MAX/MIN et affiche la valeur actuelle.

1. Introducción
Multímetros analógicos/digitales con autocalibración para montaje en panel

2. Observaciones de seguridad

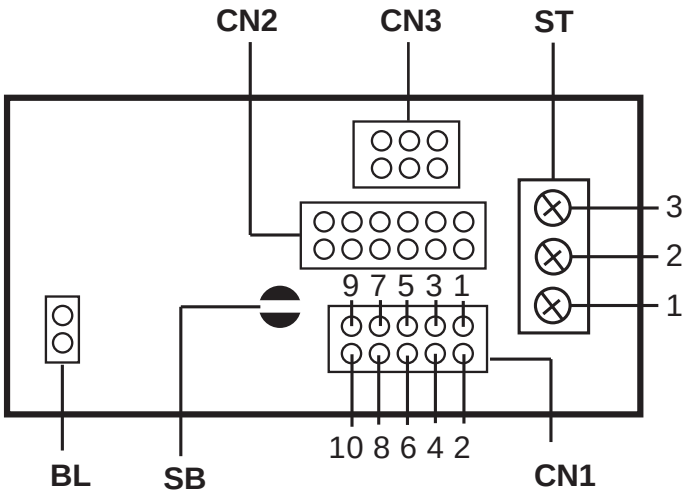
⚠ **El voltaje máximo permitido para cualquier conexión al circuito impreso es 300V. INLO (0 V) va conectadointernamente a VSS (0 V)**

Nota:
Cualquier cable de señal conectado a esta unidad no debe de exceder de 30 metros. Si se instalan cables de señal que sean llevados fuera del edificio, sera necesario instalar unidades adicionales de protección de onda.

3. Especificación

Pantalla
61 mm x 18 mm; 4 caracteres de 11 mm; Gráfico de barras de 40 segmentos; Se borran los ceros a la izquierda; Anunciadores: batería baja, x10, x100, CC, CA, -, µ, m, A, V, MÍN., MÁX
Rango de entrada
0,1 mV a 300 V
±0,1 µA a 10 A
Precisión
(±1 del dígito menos significativo)
CC: V, µA, mA: ±1%
CC: A: ±3%
CA: 40-650 Hz: como anterior
CA:650-2700 Hz: ±5%
Linearidad
±0,1% escala completa
Velocidad de muestreo
1 seg.
Impedancia de entrada
V: 10 MΩ
0 a 399,9 µA: 500 Ω
400 a 3999 µA: 50 Ω
0 a 39,9 mA: 5 Ω
40 a 399,9 mA: 0,5 Ω
0 a 10 A: 0,005 Ω
Conexiones
Entrada: Conexiones tornillo a prueba de dedos para cables de hasta 1,5 mm².
Alimentación y control: 2 x 5 vías 0,1 pulg. paso
Entradas de control
Sólo absorción o contacto
Salida RS232
2.400 baudios, 7 bits, paridad impar, 1 bit de parada
Alimentación
5 a 16 VCC ± 10%, 15 mA máx
Luz de fondo
5 a 8 VCC / 12 VCC ±0.5V seleccionable, 110 mA máx.
Categoría de instalación (IEC664)
Categoría II de sobrevoltaje
Grado de contaminación 2 (IEC64)
Temperatura de Funcionamiento
0° C a 60° C
Temperatura de almacenaje
-20° C a 70° C
Protección ambiental
IP50
Altitud
Hasta 3.000 m
Humedad relativa
85% máx. sin condensado

4. Circuito impreso



5. Configuración medición CC ó CA a SB

SB abierto = CC
SB acortados = CA

6. Conexiones alimentación y control a CN1

1 VDD 5 V CC a 16 V CC
2 VSS 0 V
3 Luz de fondo BL+
4 Luz de fondo BL-
5 Control común
6 *no conectado*
7 Control común
8 MÁX./MÍN. *(ver la página 9)*
9 Disparo RS232
10 Salida RS232

7. Conexiones alimentación luz de fondo a CN1

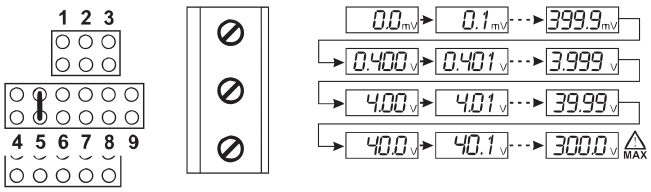
3 5 a 8 VCC **(usar jumper a BL)** ó 12 VCC.
4 0 V

8. Conexiones entrada a ST

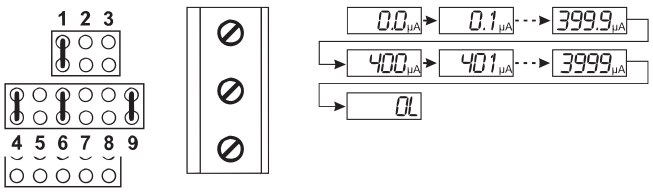
1: INHI
±0,1 mV a 300,0 V
±0,1 µA a 3999 µA
±0,01 mA a 399,9 mA
2: INHI
±0,01 A a 10,0 A
3: INLO
0 V

9. Configuración campo de medición a CN2 y CN3

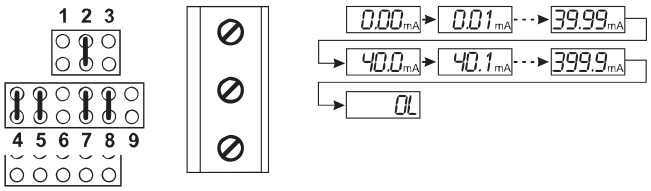
±0.1mV - 300.0V



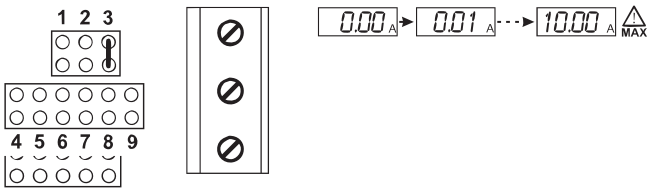
±0.1µA - 3999µA



±0.01mA - 399mA

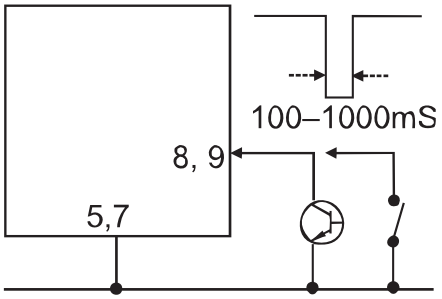


±0.01A - 10A



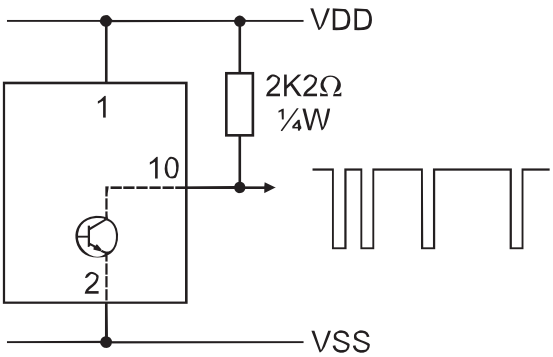
10. Entradas de control

Control común (clavijas 5 y 7) mantenido a -3V. **NO** conectar a ninguna clavija, excepto la clavijas 8 y 9.



11. Salida RS232

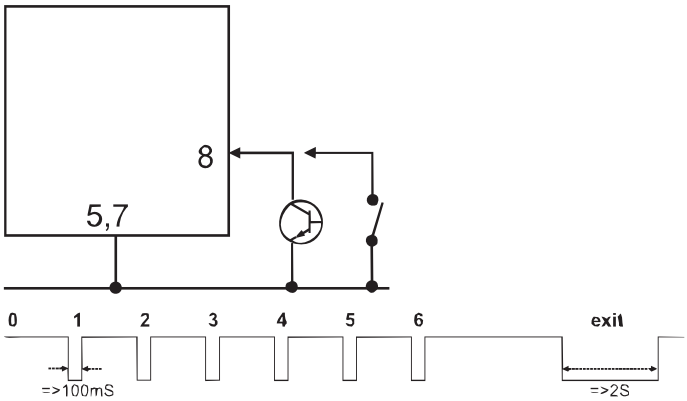
Conectar una resistencia externa como se indica a continuación.



12. Disparo RS232

Conectar a control común una vez para comenzar el tren de datos RS232.
Conectar a control común otra vez para detener.

13. Modo MÁX./MÍN.



0 Indica el valor actual.
1 Indica el valor máximo anterior.
2 Indica el valor mínimo anterior.
3 Muestra el valor actual y empieza a registrar los nuevos valores máximos y mínimos.
4 Indica el nuevo valor máximo.
5 Indica el nuevo valor mínimo.
6 Muestra el valor actual y empieza a registrar los nuevos valores máximos y mínimos.
etc.
exit Sale del modo MÁX./MÍN. e indica el valor actual.

1. Introduzione
Multimetri digitali/analogici con montaggio a pannello autoranging

2. Istruzioni di sicurezza

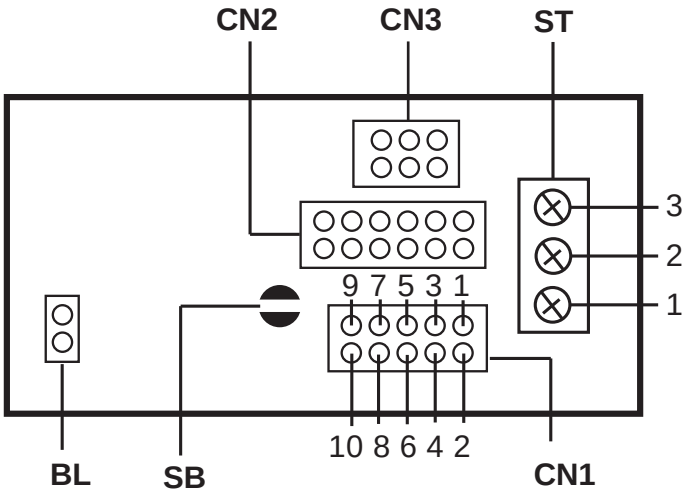
⚠ **La tensione massima consentita per una connessione su PCB è di 300V.**
INLO (0 V) è collegato internamente a VSS (0 V)

Nota:
Ogni cavo di segnale collegato a questo dispusitivo non puo essere piu lungo di 30 metri. Se i cavi di segnale sono installati su un percorso esterno all'edificio, è necessario installare dispositivi di protezione di rete addizionali.

3. Specifiche

Display
61 mm x 18 mm; Altezza cifre 4 x 11 mm; Grafico a barre con 40 segmenti; Zeri non significativi soppressi; Annunciatori: livello batteria basso, x10, x100, CC, CA, -, µ, m, A, V, MIN, MAX
Gamme di ingresso
da ±0,1 mV a 300 V
da ±0,1 µA a 10A
Accuratezza
(±1 la cifra significativa minima)
CC: V, µA, mA: ±1%
CC: A: ±3%
CA: 40-650 Hz: come sopra
CA:650-2700 Hz: ±5%
Linearità
±0,1% della scala completa
Frequenza di campionamento
1 sec.
Impedenza d'ingresso
V: 10 MΩ
da 0 a 399,9 µA: 500 Ω
da 400 a 3999 µA: 50 Ω
da 0 a 39,9 mA: 5 Ω
da 40 a 399,9 mA: 0.5 Ω
da 0 a 10 A: 0.005 Ω
Collegamenti
Ingresso: collegamenti con viti di protezione per cavi fino a 1,5 mm²
Alimentazione e controllo: 2 x 5 vie, spaziatura 0,1"
Ingressi di controllo
Solo contatto o sink
Uscita RS232
2400 baud, 7 bit, parità dispari, 1 bit di stop
Alimentazione
da 5 a 16 VCC ± 10%, 15mA max
Retroilluminazione
da 5 a 8 VCC/12 VCC ±0.5V selezionabile, 110 mA max
Categoria di installazione (IEC664)
Categoria di sovratensione II
Grado di inquinamento 2 (IEC 64)
Temperatura di funzionamento
da 0°C a +60°C
Temperatura di immagazzinaggio
-da 20°C a +70°C
Protezione ambientale
IP50
Altitudine
Fino a 3000 m
Umidità relativa
85% max (senza condensa)

4. PCB



5. Configurazione misurazione CC o CA a SB

SB aperto = DC
SB cortocircuitato = AC

6. Collegamenti alimentazione e controllo a CN1

1 VDD da 5 VCC a 16 VCC
2 VSS 0 V
3 Retroilluminazione BL+
4 Retroilluminazione BL-
5 Controllo comune
6 *Non collegato*
7 Controllo comune
8 MAX/MIN *(vedere pagina 10)*
9 Trigger RS232
10 Uscita RS232

7. Collegamenti alimentazione retroilluminazione a CN1

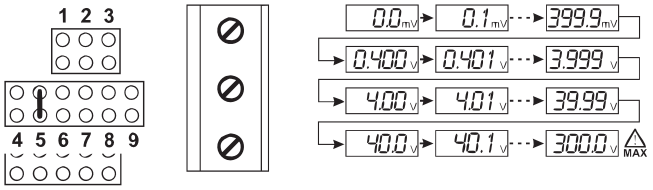
3 da 5 a 8 VCC **(Usare jumper a BL)** a 12 VCC.
4 0 V

8. Collegamenti ingresso Misurazione a ST

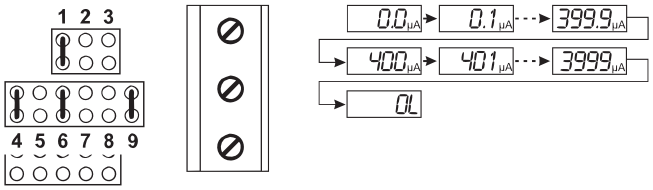
1: INHI
±0,1 mV a 300,0 V
±0,1 µA a 3999 µA
±0,01 mA a 399,9 mA
2: INHI
±0,01 A a 10,0 A
3: INLO
0 V

9. Configurazione gamme di misurazione a CN2 e CN3

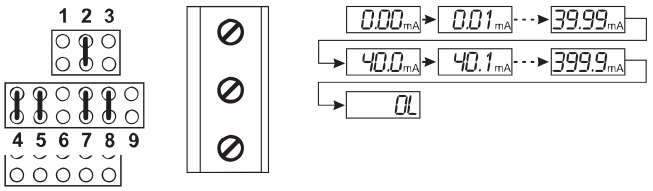
±0.1mV - 300.0V



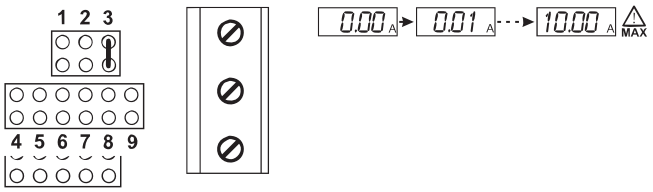
±0.1µA - 3999µA



±0.01mA - 399mA

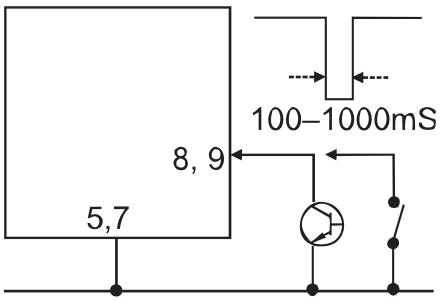


±0.01A - 10A



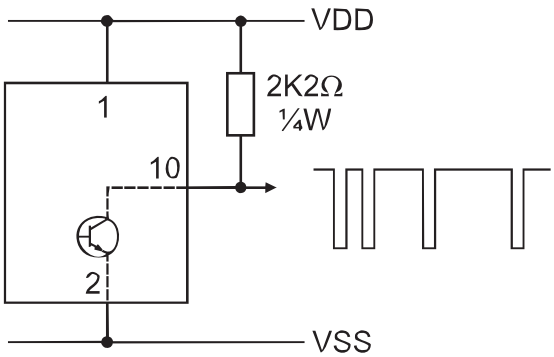
10. Ingressi di controllo

Il controllo comune (pin 5 e 7) viene mantenuto a -3 V.
Collegare **SOLO** ai pin 8 e 9.



11. Uscita RS232

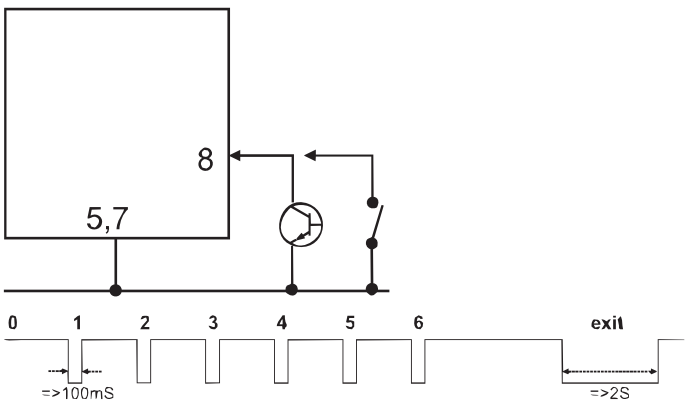
Collegare un resistore esterno, come mostrato di seguito.



12. Trigger RS232

Collegare al controllo comune una volta avviato il flusso di dati RS232.
Collegare nuovamente al controllo comune per arrestare.

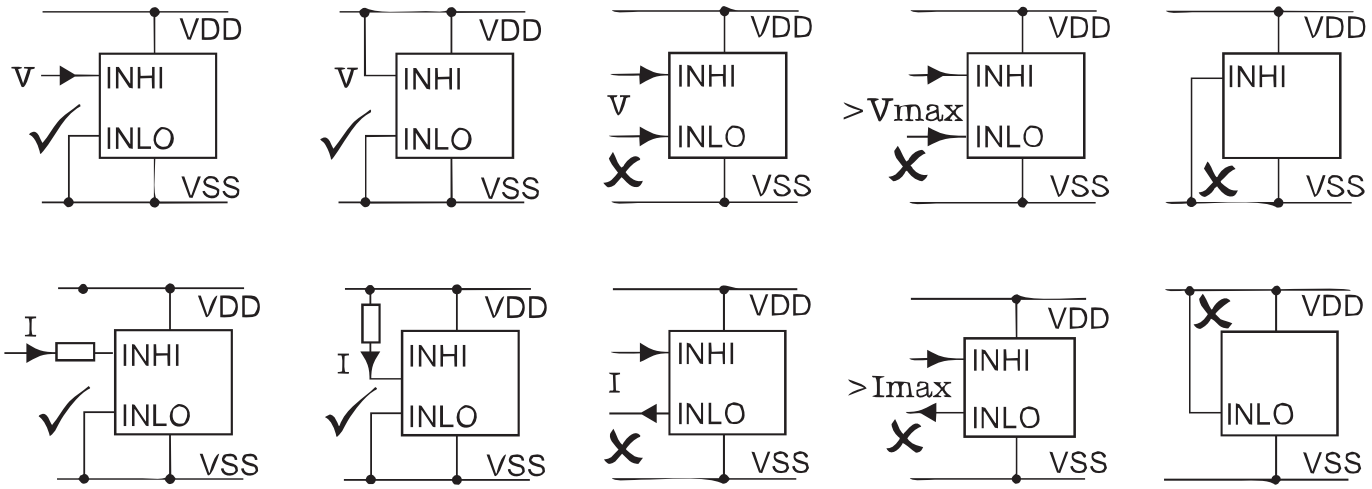
13. Modalità MAX/MIN



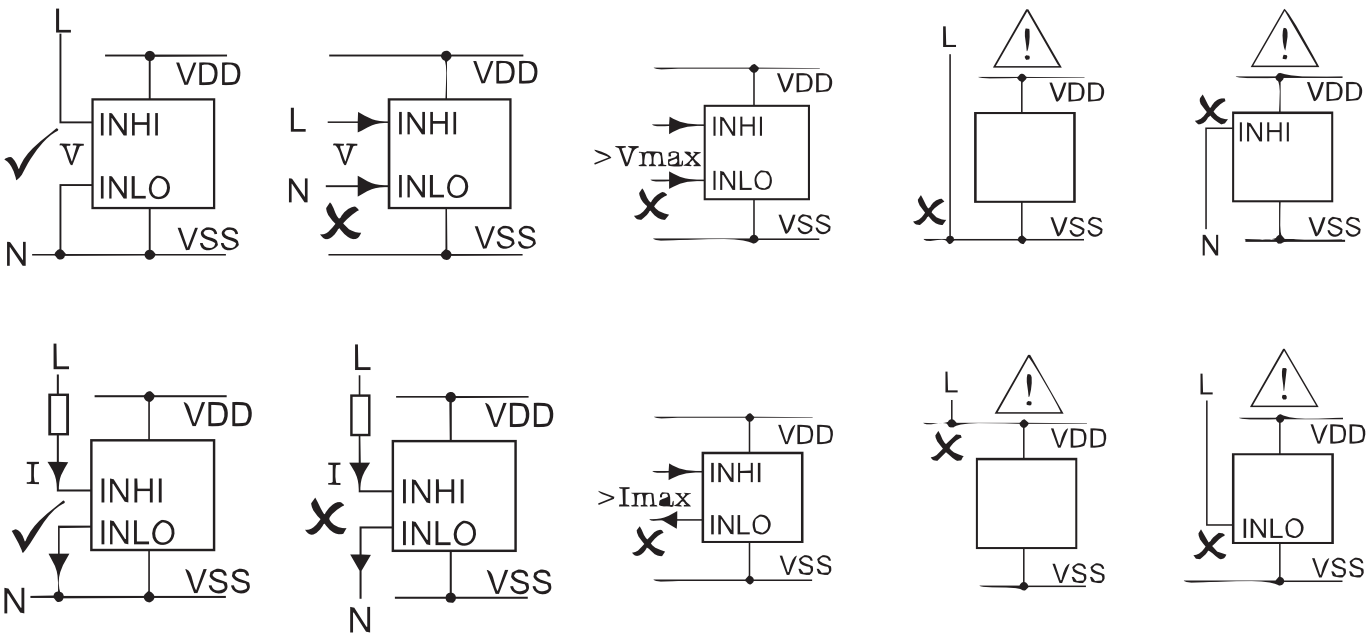
0 Visualizza il valore corrente.
1 Visualizza il valore massimo precedente.
2 Visualizza il valore minimo precedente.
3 Visualizza il valore corrente e avvia la registrazione dei nuovi valori massimo e minimo.
4 Visualizza il nuovo valore massimo.
5 Visualizza il nuovo valore minimo.
6 Visualizza il valore corrente e avvia la registrazione dei nuovi valori massimo e minimo.
ecc.
exit Esce dalla modalità MAX/MIN e visualizza il valore corrente.

Beispiele
Examples
Exemples
Ejemplos
Esempi

DC



AC

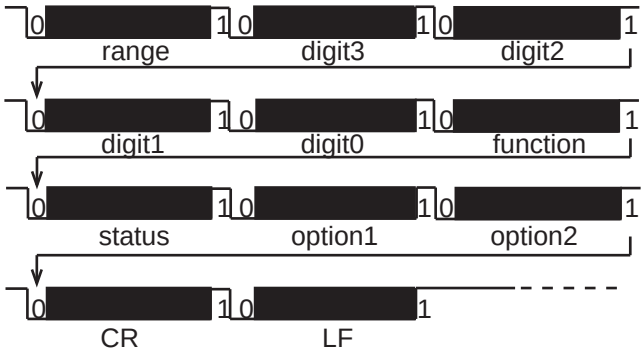


1. Serial Data output

The serial data is sent to the data output pin (pin 10) twice every A/D conversion cycle. The data format complies with JIS 7BIT transmission code with a baud rate of 2400. The host can use the RS232 interface to read the data. A single data packet allows a start bit (always 0), 7 data bits, an odd parity check bit, and a stop bit (always 1). The high and low voltage levels correspond to +V and -3V respectively. The serial output remains at 1 (high) when it is inactive. Hence the start bit (0) could be used as the triggering signal to begin the reading process. The following figure shows the data format of a single packet. The LSB is sent first and the MSB is sent last.



One data block consists of 11 packets, or 110 bits. The following figure shows the format of a data block. The range packet indicates the full scale range of the meter. Digit 3 through to digit 0 represent the digits on the meters display. The function packet indicates the measurement mode of the meter. Status, option 1, and option 2 give the status of the meter. CR and LF are delimiters used to separate the blocks.



The meter always outputs the current input value to the serial port regardless of whether the hold function has been activated or not. Each block is repeated twice in one conversion cycle. The detailed data format of each packet is listed below.

2. Function

This packet indicates the measurement mode of the meter. The following table summarises the transmitted code for each mode. Note that the encoding of this packet is different to the encoding of the FC1 to FC4 switch.

Code	Measurement Mode
0111011	Voltage
0111101	µA Current
0111001	mA Current
0111111	A Current
0111110	ADP0
0111100	ADP1
0111000	ADP2
0111010	ADP3

3. Range

This packet indicates the full scale range of the meter. When the meter is in current mode (A) this packet is always 0110000 since the full scale range in this mode is fixed. The following table shows the codes for each range.

Code	V	mA	µA
0110000	400.0 mV	40.00 mV	400.0 µA
0110001	4.000 V	400.0 mA	4000 µA
0110010	40.00 V		
0110011	400.0 V		
0110100	4000 V		
0110101			

4. Digit 3 to digit 0

Digit 3 is the most significant digit on the LCD panel, and the digit 0 is the least significant digit. When the LCD panel shows OL the serial port outputs 4000.

Digit	Code
0	110000
1	110001
2	110010
3	110011
4	110100
5	110101
6	110110
7	110111
8	111000
9	111001

5. Status

The format of this packet is shown below. (The judge field is not applicable to these units, but will be present in the data field- it should be disregarded). The sign field indicates whether the minus sign on the LCD is ON or OFF. The Batt field indicates if the battery low condition is true. OL indicates input overflow.

0	1	1	Judge	Sign	BATT	OL
Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

6. Option 1

This packet contains information on special measurement modes. The format of this packet is shown below. The three none constant fields are set to "1" when the meter operates in the corresponding special modes, max and min. Bit 0 (VAHZ) is not applicable.

0	1	1	Pmax	Pmin	0	VAHZ
Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

7. Option 2

This packet contains information on the operating mode of the meter. The format of this packet is shown below. The DC field indicates that the meter operates in DC mode, measuring voltage or current.
The AC mode indicates that the meter operates in AC mode, measuring voltage or current. The APO field is not applicable.

0	1	1	DC	AC	AUTO	APO
Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0

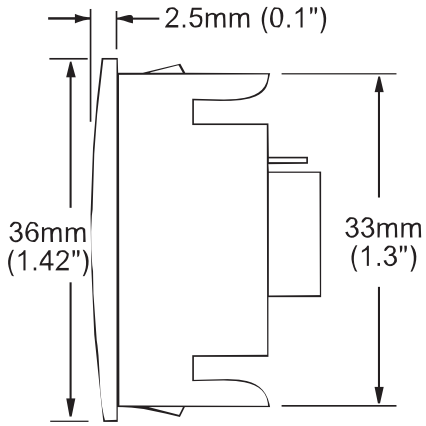
8. CR

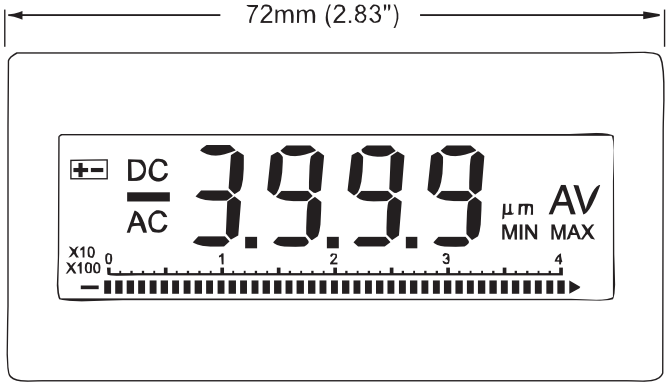
Carriage Return. The transmitted code is 0001101

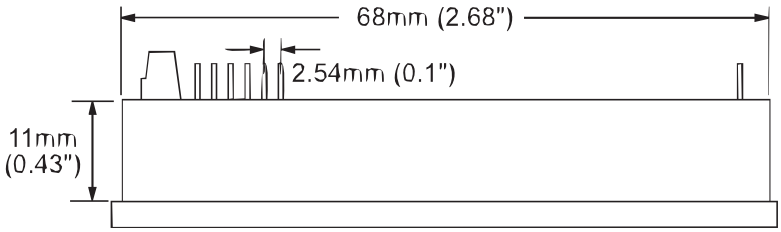
9. LF

Line Feed. The transmitted code is 0001010

Abmessungen
Dimensions
Dimensiones
Dimensioni







PANEL CUT-OUT

33 x 68mm +0.5 / -0.0
(1.3 x 2.68"'94 +.02 / -0.0)

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