

## ORDERING INFORMATION

Specify code number and variables.

- Code number (e.g. 46DV-1114-M2)
- Input range (e.g. $\pm 99.99 \mathrm{~V}$ )

Choose an input range from Tables 1, 2 and 3 depending on the input type specified by the model number.

Alternately, exactly scaled input and display ranges can be specified. The initial setting value will be used for the display range if not specified:

- Input range and display scale
(e.g. $4-20 \mathrm{~mA}$ DC, $0.0-150.0$ )

Refer to Parameter List for the initial setting values at the factory.

## DISCONTINUED MODEL

## Replaced with Model 46DV2

## Functions \& Features

- 4-digit DC input digital panel meter
- $1 / 8$ DIN size


## GENERAL SPECIFICATIONS

Construction: Panel flush mounting

## Connection

Input, alarm and power: M3 screw terminal
External control: Euro terminal block (connector for BCD output)
Analog output: Euro terminal block
BCD output: Connector
Serial output: Modular jack and euro terminal
Housing material: flame-resistant resin (black)
Input configuration: Single-ended
Scaling: Programming via the front keys
Averaging: None, average and moving average
Power ON delay: $0-9$ seconds
Lockout protection: Prevents from unwanted key operations.

## DISPLAY

LED
Main display: 20 mm (.79") 7-segment, 4 digits, bicolor (red/green) LED
Sub display: 6 mm (.24") 7 -setment, 4 digits, red LED (multi display type only)
Scaling range: -9999 to 9999 counts
Decimal point position: $10^{-1}, 10^{-2}, 10^{-3}$ or none
Read rate: 1 millisecond
Display rate: Equal to the read rate (Read rate x average sample numbers when the averaging is selecteed.)
Over-range indication: -OVER for negative; OVER for positive over-range out of the display or measured range
Zero display: Suppressing the higher digits
Engineering unit indication: Sticker label attached

| INPUT |  |  |  |
| :---: | :---: | :---: | :---: |
| ■DC VOLTAGE INPUT |  |  | Table 1 |
| CODE | RANGE | IMPEDANCE | MAX. INPUT |
| 11 | $\pm 99.99 \mathrm{mV}$ | $\geq 100 \mathrm{M} \Omega$ | $\pm 50 \mathrm{~V}$ |
| 12 | $\pm 999.9 \mathrm{mV}$ | $\geq 100 \mathrm{M} \Omega$ | $\pm 50 \mathrm{~V}$ |
| 13 | $\pm 9.999 \mathrm{~V}$ | $\geq 1 \mathrm{M} \Omega$ | $\pm 250 \mathrm{~V}$ |
| 14 | $\pm 99.99 \mathrm{~V}$ | $\geq 10 \mathrm{M} \Omega$ | $\pm 250 \mathrm{~V}$ |
| 15 | $\pm 700.0 \mathrm{~V}$ | $\geq 10 \mathrm{M} \Omega$ | $\pm 700 \mathrm{~V}$ |

■DC CURRENT INPUT, narrow span
Table 2

| CODE | RANGE | IMPEDANCE | MAX. INPUT |
| :---: | :---: | :---: | :---: |
| 21 | $\pm 99.99 \mu \mathrm{~A}$ | $1 \mathrm{k} \Omega$ | $\pm 10 \mathrm{~mA}$ |
| 22 | $\pm 999.9 \mu \mathrm{~A}$ | $100 \Omega$ | $\pm 10 \mathrm{~mA}$ |
| 23 | $\pm 9.999 \mathrm{~mA}$ | $10 \Omega$ | $\pm 50 \mathrm{~mA}$ |
| 24 | $\pm 99.99 \mathrm{~mA}$ | $1 \Omega$ | $\pm 500 \mathrm{~mA}$ |

■DC CURRENT INPUT, wide span
Table 3

| CODE | RANGE | IMPEDANCE | MAX. INPUT |
| :---: | :---: | :---: | :---: |
| 25 | $\pm 999.9 \mathrm{~mA}$ | $0.1 \Omega$ | $\pm 3 \mathrm{~A}$ |
| 26 | $\pm 2.000 \mathrm{~A}$ | $0.01 \Omega$ | $\pm 3 \mathrm{~A}$ |

■EXTERNAL CONTROL
Internal configuration: Pulled up to approx. +5 V (resistance approx. $10 \mathrm{k} \Omega$ )
Control signal HI level: $4.2-5 \mathrm{~V}$ relative to COM
Control signal LO level: $0-0.4 \mathrm{~V}$ relative to COM
S/H: $\quad$ Start/Hold control; Hold with shortcircuit or same potential as COM
PH: Peak Hold control; Peak Hold with shortcircuit or same potential as COM
DZ: Digital Zero control; Digital Zero with shortcircuit or same potential as COM; valid only when TERM (ext. control terminal) is selected as DZ control method.
R.RESET: Relay Reset control; Relay Reset with shortcircuit or same potential as COM; valid only with alarm output type.
P1/P2/P3: Pattern Selection control; Pattern Selection with shortcircuit or same potential as COM to switch the registered scaling and alarm data patterns; valid only when TERM (ext. control terminal) is selected as P.SEL control method. (Pattern Selection via external control is not available with the analog output option.)
COM: Common negative terminal for the external control. Common to Input LO.

## -Pattern Selection via External Control

| PATTERN | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| P1 | O | C | O | C | O | C | O | C |
| P2 | O | O | C | C | O | O | C | C |
| P3 | O | O | O | O | C | C | C | C |

## OUTPUT

## ■ANALOG OUTPUT

Conversion: PWM
Resolution: Equivalent to 14 bits
Scaling: Digital (scalable to any display value)
-Current Output
Load resistance
(Range) $4-20 \mathrm{~mA} \quad: 550 \Omega$ maximum
-Voltage Output
Load resistance
(Range) $0-1 \mathrm{~V} \quad: 10 \mathrm{k}(\Omega$ minimum $)$

| $0-10 \mathrm{~V}$ | $: 10 \mathrm{k}$ |
| :--- | :--- |
| $1-5 \mathrm{~V}$ | $: 10 \mathrm{k}$ |

■ALARM OUTPUT: N.O. or N.C. contact for each of three zones ( $\mathrm{Hi} / \mathrm{Go} / \mathrm{Lo}$ ) separated by $\mathrm{Hi} /$ Lo setpoints.
-Relay Contact: 30V DC @2A 250 V AC @2A (resistive load)
Relay life: Electrical $5 \times 10^{4}$ cycles (N.O.)
$3 \times 10^{4}$ cycles (N.C.)
Mechanical $10^{7}$ cycles
-Photocoupler: 30V DC @20mA
Saturation voltage: $\leq 1.2 \mathrm{~V}$

## ■BCD OUTPUT

-Open Collector
Polarity: Transistor ON with negative indication
Overrange: ON with overrange indication
Logic: $\quad$ Selectable (P. C. logic cannot be inverted.)
Rating: $\quad 30 \mathrm{~V}$ DC @10mA
Saturation voltage: $\leq 1.2 \mathrm{~V}$
-TTL Compatible
Polarity: Bit ' 1 '
Overrange: Bit ' 1 '
Logic: $\quad$ Selectable (P. C. logic cannot be inverted.)
Rating: Fan-out 2

## ■RS-232C OUTPUT

Baud rate: $38.4,19.2,9.6,4.8$ or 2.4 kbps
Start bit: 1 bit
Data length: 7 or 8 bits
Parity: Even, odd or none
Stop bit: 1 or 2 bits
Character code: ASCII
Delimiter: CR or $\mathrm{CR}+\mathrm{LF}$

## ■RS-485 OUTPUT

Baud rate: 38.4, 19.2, 9.6, 4.8 or 2.4 kbps
Start bit: 1 bit
Data length: 7 or 8 bits
Parity: Even, odd or none
Stop bit: 1 or 2 bits
Character code: ASCII
Delimiter: CR or $\mathrm{CR}+\mathrm{LF}$
Error check: BBC sum check
Number of nodes: Max. 31
Transmission distance: Max. 500 meters

## INSTALLATION

## Power input

AC: Operational voltage range $85-264 \mathrm{~V}, 50 /$ 60 Hz , max. load approx. 8 VA at 100 V
DC: Operational voltage range $10.8-52.8 \mathrm{~V}$, max. load approx. 7 W at 24 V
Operating temperature: 0 to $50^{\circ} \mathrm{C}\left(32\right.$ to $\left.122^{\circ} \mathrm{F}\right)$
Operating humidity: 35 to $85 \% \mathrm{RH}$ (non-condensing)
Storage temperature: -10 to $+70^{\circ} \mathrm{C}\left(14\right.$ to $\left.158^{\circ} \mathrm{F}\right)$
Storage humidity: $\leq 60 \% \mathrm{RH}$
Mounting: Panel flush mounting
Dimensions: W102.5×H48×D104 mm

> (4.04"×1.89"×4.09")

Weight: $\quad 450 \mathrm{~g}(0.99 \mathrm{lbs})$

## PERFORMANCE

Accuracy $\left(23^{\circ} \mathrm{C} \pm 5^{\circ} \mathrm{C}\right.$, read rate $\left.\leq 20 / \mathrm{sec}\right)$
Ammeter: $\pm(0.1 \%$ of $|\mathrm{rdg}|+2$ digits $)$
Voltmeter: $\pm(0.03 \%$ of $\mid$ rdg $\mid+1$ digit) $\pm(0.1 \%$ of $|\mathrm{rdg}|+2$ digit $)$ for $\pm 700.0 \mathrm{~V}$ range
Analog output: $\pm 0.5 \%$ of FS

## Temp. coefficient

Ammeter: $\pm 0.015 \%$ of $\mathrm{FS} /{ }^{\circ} \mathrm{C}\left( \pm 0.008 \%\right.$ of $\left.\mathrm{FS} /{ }^{\circ} \mathrm{F}\right)$
Voltmeter: $\pm 0.01 \%$ of $\mathrm{FS} /{ }^{\circ} \mathrm{C}\left( \pm 0.006 \%\right.$ of $\left.\mathrm{FX} /{ }^{\circ} \mathrm{F}\right)$
Analog output: $\pm 0.02 \% /{ }^{\circ} \mathrm{C}\left( \pm 0.01 \% /{ }^{\circ} \mathrm{F}\right)$
Analog output response time: Approx. 0.5 seconds (10-90\%)
Insulation resistance: $\geq 100 \mathrm{M} \Omega$ with 500 V DC (input or output to power, input or external control to output, between each output)
Dielectric strength: 1500 V AC @1 minute (AC power) 500 V DC @1 minute (DC powre) (input or output to power) 500 V DC @1 minute (input or external control to output, bewteen each output) 1500 V AC @1 minute (input or output or power to housing)

## PARAMETERS LIST

■CONDITION DATA

| MENU | PARAMETER | INITIAL | P.L | SELECTIONS / RANGES | FUNCTIONS / REMARKS |
| :---: | :---: | :---: | :---: | :---: | :---: |
| AVG | Average rate | 50 | 0 | 1/2/4/8/10/20/50/100/ 200/400/800/1000/2000/5000 | Select the average sample numbers. (Read rate: approx. 1 msec .) |
| MAV | Moving average rate | 1 | 0 | 1 / 2 / 4 / 8 / 16 / 32 | Select the moving average sample numbers. $1=\mathrm{OFF}$, Filter: [smaller] $2<4<8<16<32$ [greater] |
| S.WD | Round off display | 1 | 0 | $1 / 2 / 5 / 10$ (digits) | Rounding off the display to the nearest digits to eliminate display jitter. (e.g. Displays only 0 or 5 when set to 5 .) |
| CLR | Display color | RED | 1 | RED / GREN | Select the display color. (Not selectable for alarm output type) |
| CLT.T | Indicator color type | AUTO | 1 | AUTO / MANU | Select the zone indicator color type. Auto: Red in HI/LO zones, Green in GO zone. Manu: Manual selection |
| HI.CL | HI indicator color | RED | 1 | RED / GREN | Select the HI indicator color (Red or Green). (Valid only with CLT.T set to MANU.) |
| GO.CL | GO indicator color | GREN | 1 | RED / GREN | Select the GO indicator color (Red or Green). (Valid only with CLT.T set to MANU.) |
| LO.CL | LO indicator color | RED | 1 | RED / GREN | Select the LO indicator color (Red or Green). (Valid only with CLT.T set to MANU.) |
| BLNK | Display brightness cutoff | OFF | 0 | OFF / LV1 / LV2 / LV3 / ON | Select the display brightness cutoff level. OFF = brightest $>\mathrm{LV} 1>\mathrm{LV} 2>\mathrm{LV} 3>\mathrm{ON}=$ completely dark |
| J.SW | Jog dial | ON | 0 | ON / OFF | Enable/disable the use of front jog dials. (Valid only with Multi Display type.) |
| PVH | Peak/Valley Hold | OFF | 0 | PH / VH / PVH | Select the peak hold type to be used when the PH mode is enabled. $\mathrm{PH}=$ Peak Hold, $\mathrm{VH}=$ Valley Hold, $\mathrm{PVH}=$ Peak/Valley Hold |
| DZ/BU | Digital Zero backup | OFF | 0 | OFF / ON | Select whether the Digital Zero data must be backed up or not when the power is removed. |
| PS | Pattern selection | 1 | 0 | $1 / 2 / 4$ / 8 | Specify the pattern selection numbers activated for use. |
| LINE | Linearization | OFF | 0 | OFF / 2 / $4 / 8 / 16$ | Select the calibration point numbers for linearization. OFF = No linearization |
| TR.T | Tracking Zero time | 000 | 0 | 000 to 999 (times) | Select the calibration time for the Tracking Zero function. $000=$ Disable |
| TR.W | Tracking Zero range | 01 | 0 | 01 to 99 (digits) | Select the calibrated digits for the Tracking Zero function. (Invalid with TR.T set to 000) |
| P.ON | Power ON delay time | 0 | 0 | 0 to 9 (seconds) | Select the stand-by time (in seconds) after the power startup. |
| PRO | Lockout protection level | LV1 | 3 | LV0 / LV1 / LV2 / LV3 | Select the level of protection to prevent unwanted key operation. [lower] LV0 < LV1 < LV2 < LV3 [higher] |
| U-NO. | Hardware configuration | OFF | 0 | OFF / ON | Disable/enable the code display of built-in hardware unit types at the startup. |
| S/H.T | Start/Hold type | A | 0 | A / B | Select among Type A (typical) and Type B (special). (Valid only with External Control type) |
| S/H.D | Start/Hold delay time | 0 | 0 | 0 to 9999 (milliseconds) | Specify the delay time in msec. to Start after Hold (Valid only with Externbal Control type) |
| PVH.T | Peak Hold type | A | 0 | A / B | Select among Type A (typical) and Type B (special). (Valid only with External Control type) |
| DZ.C | Digital Zero control | SW | 0 | SW / TERM | Specify how Digital Zero control should be accessed. SW = Front keys, TERM = External control terminals |
| PS.C | Pattern selection control | SW | 0 | SW / TERM | Specify how Pattern Selection control should be accessed. (SW = Front keys, TERM = External control terminals) |
| BCD.L | BCD logic | N.LOG | 0 | N.LOG / P.LOG | Select the BCD output logic. (N.LOG = Negative logic, P.LOG = Positive logic) |
| BAUD | Baud rate | 9600 | 1 | $2400 / 4800 / 9600 / 19.2 \mathrm{k} / 38.4 \mathrm{k}$ | Select the baud rate for serial communication. |
| DATA | Data length | 7 | 1 | $7 / 8$ | Select the data length for serial communication. |
| P.BIT | Parity bit | E | 1 | E/O / N | Select the parity bit for serial communication. $\mathrm{E}=$ Even, $\mathrm{O}=\mathrm{Odd}, \mathrm{N}=$ None |
| STP.B | Stop bit | 2 | 1 | $1 / 2$ | Select the stop bit for serial communication. |
| T- | Delimiter | CR.LF | 1 | CR.LF / CR | Select the delimiter for serial communication. |
| ADR | Device address | 01 | 1 | 01 to 99 | Select the device address for RS-485. |

## PARAMETERS LIST

## ■SCALING DATA

| MENU | PARAMETER | INITIAL | P.L | SELECTIONS / RANGES | FUNCTIONS / REMARKS |
| :--- | :--- | :--- | :--- | :--- | :--- |
| RANG | Input range |  |  |  |  |
|  | DC voltage | $* 1$ | 1 | $11 / 12 / 13 / 14 / 15$ | Select the input range code. |
|  | DC current, narrow span | $* 1$ | 1 | $21 / 22 / 23 / 24$ | (Input terminal may vary depending on the input range.) |
|  | DC current, wide span | $* 1$ | 1 | $25 / 26$ |  |
| FSC | Full-scale display reading | $9999 * 2$ | 2 | -9999 to +9999 | Select the scaled $100 \%$ display reading. |
| FIN | Full-scale input | $9999 * 2$ | 2 | -9999 to +9999 | Select the reading equivalent to $100 \%$ input. |
| OFS | Offset display | $0 * 2$ | 2 | -9999 to +9999 | Select the scaled 0\% display reading. |
| OIN | Offset input | $0 * 2$ | 2 | -9999 to +9999 | Select the reading equivalent to 0\% input. |
| DLHI | Digital limiter, HI | 9999 | 0 | -9999 to +9999 | Select the maximum limit of display range. |
| DLLO | Digital limiter, LO | -9999 | 0 | -9999 to +9999 | Select the minimum limit of display range. |
| A.OUT | Analog output range | $0-1$ | 1 | $0-1 / 0-10 / 1-5 / 4-20$ | Select the analog output range. |
| AOHI | Analog output, HI | 9999 | 1 | -9999 to +9999 | Select the reading equivalent to 100\% analog output. |
| AOLO | Analog output, LO | 0 | 1 | -9999 to +9999 | Select the reading equivalent to 0\% analog output. |
| DP | Decimal point | None*2 | 2 | Each digit | Select the decimal point position. |
| *1. Specified when ordering. | $* 2$. Specified when ordering. Initial setting if not specified. |  |  |  |  |

■ALARM DATA

| MENU PARAMETER | INITIAL | P.L | SELECTIONS / RANGES | FUNCTIONS / REMARKS |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| COM.T Alarm type | O/U | 1 | O/U / ERR | Select either HI/LO alarm (O/U) or Deviation alarm <br> (ERR). |  |
| HI-S | HI setpoint reading | 1000 | 2 | -9999 to +9999 | Select the HI setpoint for HI/LO alarm. |
| LO-S | LO setpoint reading | 500 | 2 | -9999 to +9999 | Select the LO setpoint for HI/LO alarm. |
| N.VAL | Nominal reading | 5000 | 2 | -9999 to +9999 | Select the nominal reading for Deviation alarm. |
| ERR1 | Deviation | 5.00 | 2 | 0.00 to $10.00(\%)$ | Select the deviation (\% of the nominal reading) for <br> Deviation alarm. |
| HI-H | HI hysteresis (deadband) | 0 | 1 | -999 to +999 | Select the hysteresis (deadband) to go below the setpoint <br> for HI alarm. |
| LO-H LO hysteresis (deadband) | 0 | 1 | -999 to +999 | Select the hysteresis (deadband) to go above the setpoint <br> for LO alarm. |  |
| ER1.H Deviation hysteresis | 0 | 1 | -999 to +999 | Select the hysteresis (deadband) to go inside the devia- <br> tion reading for Deviation alarm. |  |
| HI-L | HI contact logic | N.O. | 0 | N.O. / N.C. | Select either Normally-Open or Normally-Close contact <br> for HI alarm. (Open at power off.) |
| GO-L GO contact logic | N.O. | 0 | N.O. / N.C. | Select either Normally-Open or Normally-Close contact <br> for GO alarm. (Open at power off.) |  |
| LO-L LO contact logic | N.O. | 0 | N.O. / N.C. | Select either Normally-Open or Normally-Close contact <br> for LO alarm. (Open at power off.) |  |

FRONT VIEW
■MULTI DISPLAY


| COMPONENT |  | FUNCTIONS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jog Dial 1 |  | Selects menus and their selections during the parameter setting. Selects patterns when used with Increment key. |  |  |  |  |  |  |  |
| Jog Dial 2 |  | Selects alarm setpoints and transfers the current reading to the setpoints with the alarm output type. Switches to the maximum value with no-alarm output type. |  |  |  |  |  |  |  |
| Jog Dial 3 |  | Selects alarm setpoints and transfers the current reading to a setpoint with the alarm output type. Switches to the maximum value with no-alarm output type. |  |  |  |  |  |  |  |
| Zone Indicators |  | Shows the zone in which the current reading is. |  |  |  |  |  |  |  |
| Main Display |  | Shows the meter reading, menu and their selections during the parameter setting. |  |  |  |  |  |  |  |
| Sub Display 1 |  | Shows alarm setpoints with the alarm output type, the maximum value with no-alarm output type. |  |  |  |  |  |  |  |
| Function Indicators | RE | Light turns on when the remote control via serial communication is activated. |  |  |  |  |  |  |  |
|  | PH | Light turns on when Peak Hold, Valley Hold or Peak/Valley Hold is activated. |  |  |  |  |  |  |  |
|  |  | Light turns on when Digital Zero is activated. |  |  |  |  |  |  |  |
|  |  | Light turns on when Tracking Zero is activated. |  |  |  |  |  |  |  |
|  | ME | Light turns on when Digital Zero Backup is activated. |  |  |  |  |  |  |  |
|  |  | Pattern 1 | Pattern 2 | Pattern 3 | Pattern 4 | Pattern 5 | Pattern 6 | Pattern 7 | Pattern 8 |
|  | P1 | OFF | ON | OFF | ON | OFF | ON | OFF | ON |
|  | P2 | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
|  | P3 | OFF | OFF | OFF | OFF | ON | ON | ON | ON |


| Sub Display 2 | Shows alarm setpoints with the alarm output type, the maximum value with no-alarm output type. |
| :--- | :--- |
| Enter Key | Switches to the parameter setting mode. |
| Mode Key | Select modes during the parameter setting. |
|  | Switches to the memory mode during normal measuring mode. (Press and Hold) |
| Shift Key | Shifts among the digits during the parameter setting. <br>  <br> Digital Zero control during normal measuring mode. |
| Increment Key | Changes items and values during the parameter setting. <br>  |

## ■SINGLE DISPLAY




## TERMINAL CONNECTION

## ■INPUT UNIT

 -DC Voltage Input| (1) | 15 Range HI <br> 14 Range HI |
| :---: | :---: |
| (2) |  |
| (3) | 13 Range HI |
| (4) | 12 Range HI |
| (5) | 11 Range HI |
| (6) | LO |

## IALARM OUTPUT UNIT

- Relay Output

| (1) | HIa |
| :---: | :---: |
| (2) | HIC |
| (3) | GO |
| (4) | GO c |
| (5) | LO a |
| (6) | LOc |

Rear View


## -Photocoupler Output

| (1) |
| :---: |
| (2) |
| (3) |
| 4 |
| (5) |
| (6) |

## TERMINAL CONNECTION

-OPTION UNIT
-External Control

| $\ominus$ | (1) S/H |
| :---: | :---: |
| $\ominus$ | (2) PH |
| $\theta$ | (3) DZ |
| $\ominus$ | (4) R.RESET |
| $\ominus$ | (5) P1 |
| $\ominus$ | (6) P2 |
| $\ominus$ | (7) P3 |
| $\ominus$ | (8) COM |
| $\ominus$ | (9) NC |
| $\ominus$ | (10) NC |

(1) $\mathrm{S} / \mathrm{H}$
(2) PH
(3) DZ
(4) R.RESET
(5) P1
(6) P2
(7) P3
(9) NC
(10) NC


Suitable connector or receptable: 8822E-036-171 (KEL Corporation) (included in the product package)
DO NOT connect to 'NC' terminals.
-RS-485


| $\ominus$ | TREM |
| :---: | :---: |
| $\ominus$ | TREM |
| $\ominus$ | NC |
| $\ominus$ | NC |
| $\ominus$ | NC |

-Analog Output + External Control
-BCD Output (TTL) + External Control -BCD Output (open collector)

+ External Control

-RS-485 + Analog Output


## ■POWER UNIT

-AC Power

| (1) | NC |
| :---: | :---: |
| (2) | NC |
| (3) | NC |
| (4) | NC |
| (5) | AC POWER |
| (6) | AC POWER |

## -DC Power

| (1) | DC PWR (+) |
| :---: | :---: |
| (2) | DC PWR (-) |
| (3) | NC |
| (4) | NC |
| (5) | NC |
| (6) | NC |

(1) $\mathrm{S} / \mathrm{H}$
(2) PH
(3) DZ
(4) R.RESET
(5) NC
(6) NC
(7) COM
(8) A.OUT V (+)
(9) A.OUT I (+)
(10) A.OUT COM (-)
-RS-232C + Analog Output


$$
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\hline
\end{array}
$$

NC
NC
A.OUT V (+)
A.OUT I (+)
A.OUT COM (-)

$\left.\begin{array}{|l|l|}\hline \ominus \\ \ominus \\ \ominus \\ \ominus \\ \ominus\end{array}\right]$
TREM
TREM
A.OUT V (+)
A.OUT I (+)
A.OUT COM (-)
-

## EXTERNAL DIMENSIONS mm (inch)


*1. Not provided when no option is specified, or only with RS-232C output.
*2. $4 \mathrm{~mm}(.16$ ") with BCD output.

MOUNTING REQUIREMENTS mm (inch)
■PANEL CUTOUT


Panel thickness: $0.8-5 \mathrm{~mm}\left(0.03^{\prime \prime}-0.20^{\prime \prime}\right)$

