



# DP18 Series

## Options A01 / A02 / A03

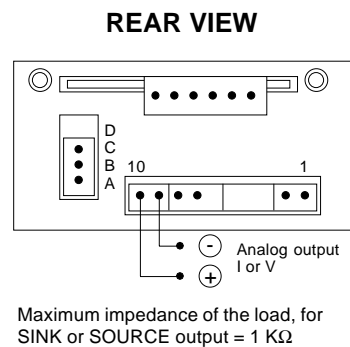
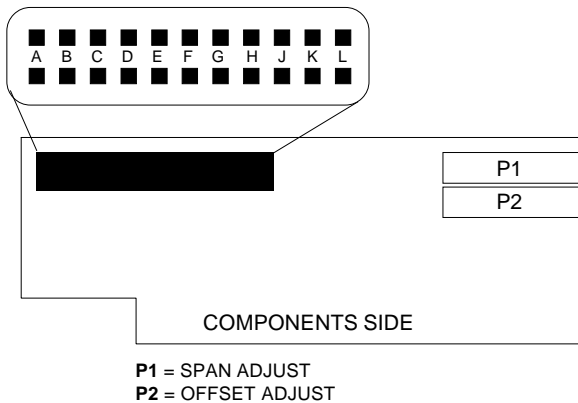
### Analog Output Options

INSTRUCTION SHEET

M2118/0498



- Option A01 : Analog output, SINK CURRENT.
- Option A02 : Analog output, SOURCE CURRENT.
- Option A03 : Analog output, VOLTAGE.



#### OUTPUT TYPE

OUTPUT IN	CLOSE JUMPER
VOLTAGE	J - G
SINK CURRENT	K - G
SOURCE CURRENT	L - H

#### OUTPUT TYPE SELECTION

SELECT THE OUTPUT TYPE DESIRED, PLACING JUMPERS IN THE INDICATED POSITIONS ON THE TABLE.  
THE ANALOG OUTPUTS AVAILABLE ARE:  
IN CURRENT : 0-1 / 0-5 / 0-20 / 1-5 / 4-20 mA.  
IN VOLTAGE : 0-1 / 0-5 / 1-5 / 0-10 Vdc.

#### OFFSET TYPE

OFFSET	CLOSE JUMPER
POSITIVE	D
NEGATIVE	E

#### OFFSET TYPE SELECTION

NEGATIVE OFFSET: WHEN THE LOW LEVEL OF THE ANALOG OUTPUT, IS LESS THAN THE CORRESPONDING DISPLAY READING.  
POSITIVE OFFSET: WHEN THE LOW LEVEL OF THE ANALOG OUTPUT, IS LARGER THAN THE CORRESPONDING DISPLAY READING.

EXAMPLE: FOR AN ANALOG OUTPUT 4-20 mA.  
DISPLAY READING FOR OUTPUT LOW LEVEL >4, OFFSET NEGATIVE  
DISPLAY READING FOR OUTPUT LOW LEVEL <4, OFFSET POSITIVE

#### OFFSET RANGE

RANGE	CLOSE JUMPER
0 to 2500	---
0 to 5500	F

#### OFFSET RANGE SELECTION

OFFSET RANGE, IS DETERMINED BY THE DISPLAY READING, CORRESPONDING TO THE LOW LEVEL OF THE OUTPUT SIGNAL.  
DO NOT CONSIDER THE DECIMALS (124.8 WILL BE 1248)

#### GAIN SELECTION

GAIN	CLOSE JUMPER
0.5 - 5	C
5 - 10	B
10 - 15	A
15 - 20	---

#### GAIN SELECTION

FOR AN ANALOG OUTPUT IN VOLTAGE, APPLY THE FOLLOWING FORMULA:

$$\frac{\text{MAXIMUM OUTPUT LEVEL ( in millivolts)}}{\text{DISPLAY READING DESIRED}} = \text{GAIN}$$

EXAMPLE:

OUTPUT 0-5 Vdc. FOR A DISPLAY READING OF 0-850  
GAIN = 5000 / 850 = 5.8 (CLOSE JUMPER "B")

FOR AN ANALOG OUTPUT IN CURRENT, APPLY THE FOLLOWING FORMULA:

$$\frac{\text{OUTPUT CURRENT (in milliamps) x 100}}{\text{DISPLAY READING DESIRED}} = \text{GAIN}$$



ANALOG OUTPUT PROGRAMMING AND SCHEMATIC CONFIGURATION

EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
<p>OUTPUT: 0 - 20 mA</p> <p>DISPLAY READING DESIRED 0-850</p> $\text{GAIN} = \frac{20 \times 100}{850} = 2.35$ <p>CLOSE JUMPER "C"</p>	<p>OUTPUT: 0 - 5 mA</p> <p>DISPLAY READING DESIRED 0-850</p> $\text{GAIN} = \frac{5 \times 100}{850} = 0.58$ <p>CLOSE JUMPER "C"</p>	<p>OUTPUT: 4 - 20 mA</p> <p>DISPLAY READING DESIRED 0-850</p> $\text{GAIN} = \frac{16 \times 100}{850} = 1.88$ <p>CLOSE JUMPER "C"</p> <p>16mA (20mA-4 mA) IS USED TO CALCULATE GAIN FOR 4-20 mA OUTPUT</p>

VOLTAGE OUTPUT CONFIGURATION	CURRENT OUTPUT CONFIGURATION	CURRENT OUTPUT CONFIGURATION
<p><math>R_L</math> min. a <math>V_{out} 10V = 1K\Omega</math></p>	<p>SINK TYPE (<math>V_{exc}</math> min. for <math>R_L 1K\Omega = 28 V</math>)</p>	<p>SOURCE TYPE (<math>R_L = 1K\Omega</math> max.)</p>

TYPE SINK, Option A01:

ALLOWS CONNECTION OF SEVERAL PASSIVE INSTRUMENTS PLUS 1 ACTIVE (WITHOUT EXCITATION SUPPLY). THE NUMBER OF THEM IS ALSO LIMITED, BY THE ADDITION OF THEIR INTERNAL RESISTANCES UP TO A VALUE OF 1 KΩ.

TYPE SOURCE, Option A02:

ALLOWS CONNECTION OF SEVERAL PASSIVE INSTRUMENTS (WITH EXCITATION SUPPLY FOR THE CURRENT LOOP). THE NUMBER OF THEM WILL BE LIMITED, BY THE ADDITION OF THEIR INTERNAL RESISTANCES UP TO A VALUE OF 1 KΩ.

TYPE VOLTAGE, Option A03:

ALLOWS CONNECTION OF SEVERAL INSTRUMENTS, BUT THE RESISTANCE OF THE WHOLE, MUST BE GREATER THAN TO 1 KΩ.

WARRANTY/DISCLAIMER

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current; heat; moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses and triacs.

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Thecnology Centre Northbank, Irlam, Manchester M44 5EX, England Telephone: 44 (161) 777-6611 FAX: 44 (161) 777-6622

RETURN REQUESTS / INQUIRIES

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FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

1. P.O. number under which the product was PURCHASED.
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. P.O. number to cover the COST of the repair,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

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