# DATA DISTRIBUTOR

# DD12

Operation and Installation Manual

© Pacific Micro Systems

## *LIMITED WARRANTY*

Pacific Micro Systems warrants its products to be free from defects in materials and workmanship for a period of one year from date of sale to the original owner or fifteen months from date of sale from Pacific Micro Systems.
This warranty provides for the repair or replacement (at our option) of any parts found to be defective in normal and intended use, provided that such defects are in our opinion due to faulty material or workmanship.

This warranty does not apply to products that have been improperly installed, subjected to extremes beyond the limits of our specifications, or which have been physically damaged. Nor does it apply to products found to be defective due to abuse, lightning or any other electrical discharge, salt or fresh water, spray, or improper or unauthorised repair. Pacific Micro Systems will pay shipping (method to be of our choice) and insurance for return of said product provided that the returned product proved defective under the terms and conditions of this warranty.

The obligation of Pacific Micro Systems shall be limited to the repair or replacement only.
In no event shall Pacific Micro Systems be liable for any special, collateral, incidental or consequential damages for (1) breach of any provisions hereof, including, without limitation, provisions regarding warranties, guarantees, and/or indemnities: or (2) any claims by the purchaser concerning the goods without limitation, claims of loss of goodwill, loss of profit or revenues, loss of use, cost of removal, installation or reinstallation, personal injury of any kind to the purchaser or anyone else.

**The forgoing warranty is in lieu of all other warranties, whether expressed or implied, or arising by law, custom, or conduct, including, without limitation, the warranties of merchantablility and/or fitness for any particular purpose.**

Pacific Micro Systems policy is one of continued development. For this reason, Pacific Micro Systems reserves the right to change specifications without notice and without incurring any obligation to similarly alter products previously purchased.

Copyright © 1992/7 Pacific Micro Systems.
All rights reserved. No part of this manual, or software (whether on disk or in hardware) supplied by Pacific Micro Systems may be reproduced in any form without the express written permission of Pacific Micro Systems.

Version 1.04
1 May 1997

**CONTENTS**

**Page**


OUTLINE: ..... 1
FEATURES: ..... 1
PARTS SUPPLIED: ..... 2
INSTALLATION: ..... 2
SPECIFICATIONS: ..... 3
CONNECTION DETAILS ..... 4
DATA OUTPUT POLARITY: ..... 4



*Designed and manufactured by*
Pacific Micro Systems
136 Curtis Street
PO Box 9285
Wellington
New Zealand

Telephone 64-4-475-9004
Facsimile 64-4-475-9084
Mobile (025) 449-061
CompuServe 100247,1522
E-mail trevor@globe.co.nz


DD12 © Pacific Micro Systems

## OUTLINE:

The DD12 has been designed to assist with the total integration of electronic equipment aboard a vessel.

This Data Distributor 12 receives data from one source, either current loop, RS422, or RS232. The data is then distributed to 8 current loop and 4 RS422 outputs (each capable of driving a number of current loop inputs) and 4 industry standard RS232 outputs. It has an isolated power supply that provides full dc isolation between the input supply and ground/all outputs.

## FEATURES:

LED Power On indicator.
LED Data in Indicator.
Wide range input supply voltage.
All necessary connectors supplied.
EMI/RFI shielded plastic case.
Isolated ground.
Low power opto isolated input (<1 ma).
Normal or inverted input data.
8 independent current loop outputs
4 RS422 outputs.
Each current loop/RS422 output is capable of driving a number of current loop loads.
4 independent RS232 outputs.
Flexible mounting capability.

## PARTS SUPPLIED:

1 x DD12 Interface.
1 x 2 pin Data In cable connector.
4 x 3 pin Current loop cable connectors.
4 x 4 pin RS232/RS422 cable connectors.

## INSTALLATION:

1. Run a two core screened data cable from the serial data source to the Data input connector of the DD12.

2. Run a two core (for current loop or RS232) or three core (for RS422) screened cable from the DD12 outputs to the inputs of the receiving equipment.

3. Connect the supply cable to a suitable 10-30v supply (Black/Red + volts, Black - volts).

4. The data input polarity header is factory set to normal (NORM). After connecting the supply and input, check that the Data In LED is normally OFF and flashing ON. If not then the polarity header must be set to Inverted (INV) to ensure the normal polarity data output. To gain access to the polarity header remove the 6 stainless steel screws retaining the front panel, the header is situated between Out 5 and Out 3.

**Note:**

The DD12 has dc isolation between its power supply input and ground. This makes it suitable for interfacing to onboard computer installations and all isolated ground equipment, while being powered from the vessel's battery supply, without affecting the integrity of the battery positive (+) or negative (-) relative to ground.

## SPECIFICATIONS:

**Input Requirements:**
RS232 or Current Loop/RS422.
Normal or Inverted.

**Output capabilities:**
**Out 1 - 4:** Current loop.
**Out 5 - 12:** Current loop, RS422 or RS232.

**Power Requirements:**
10-30 vdc @ 50 - 300 mA.
The power supply provides full dc isolation between power supply input and ground/all outputs.

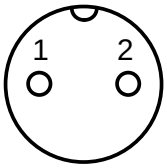
**Physical Parameters:**
**Enclosure:** Plastic EMI/RFI shielded.
**Weight:** 300 grams.
**Dimensions:** 92 x 155 x 37 mm.
**Mounting:** Table top or under shelf.
Indicators: (LED), Power ON and Data In.

Pacific Micro Systems has a policy of continued development and therefore reserves the right to change specifications without notice.

DD12 © Pacific Micro Systems

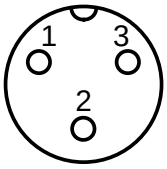
## CONNECTION DETAILS

**INPUT DATA:** **Viewed from rear**



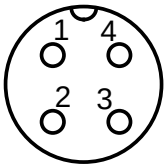

| Data In | Description |
|---|---|
| 1 | RX + |
| 2 | RX - |

**OUTPUT DATA (Current Loop):**

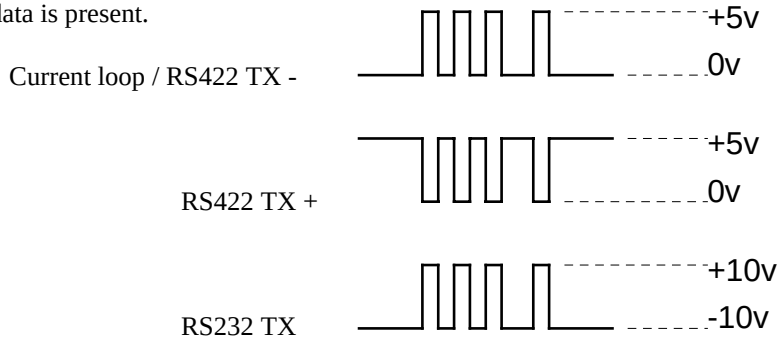



| Out 1 - 4 | Description |
|---|---|
| 1 | Current loop out (a) |
| 2 | 0 v Return (Ground) |
| 3 | Current loop out (b) |

**OUTPUT DATA (RS232/RS422):**




| Out 5 - 12 | Description |
|---|---|
| 1 | RS422 TX - |
| 2 | 0 v Return (Ground) |
| 3 | RS232 TX |
| 4 | RS422 TX + |

## DATA OUTPUT POLARITY:

Set the polarity header so that the Data In LED is normally OFF and flashing ON when data is present.