



# INSTALLATION GUIDE

## Maxiflex Dual Hart NIM M1589D

### Introduction

This Installation Guide is intended to aid the fitment of the M1589D Dual Hart® NIM in the field. For operating details of this product, refer to the Users' Manual. Please read this Installation Guide **first** before installing this unit.

### Installation into a Maxiflex Rack

The M1589D Dual Hart® NIM can ONLY be installed into any I/O Slot in the Maxiflex Rack. **UNDER NO CIRCUMSTANCES MAY IT BE FITTED TO A CPU SLOT OR A PSU SLOT.** Such an action may cause fatal unit failure, especially if the system is live.

Like any other Maxiflex I/O Module, the NIM Module is "hot-plug-in", i.e. it may be installed in or removed from any I/O slot while the system is live.

### Connecting the M1589D Dual Hart NIM

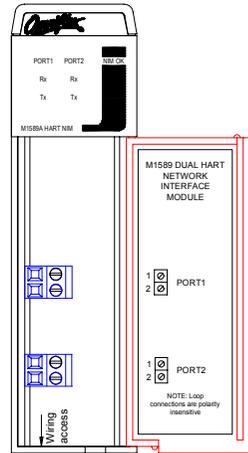
A two way connector is provided for each HART interface. This interface is completely isolated from the NIM circuitry and therefore will not affect the performance of a 4-20mA loop when connected.

The connection is symmetrical, and may be connected with either polarity without affecting the performance of the system.

It is NOT recommended that this connection be made while the 4-20mA loop is active, as a small current upset may be observed when the NIM circuit's blocking capacitors charge.

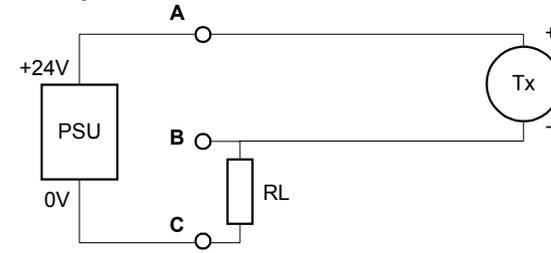
Please refer to the connection diagram below for connecting the loop.

The terminals (1 and 2) of each Hart loop may be connected to either A and B, or B and C. Connection must never be made to A and C i.e. directly across the power supply.



Note: The LED indicators can only be seen when illuminated.

Connection Diagram:



Two-wire transmitter connection



Four-wire transmitter connection

### Specifications

Inputs/Outputs	
Number of HART loops	2
Number of Field devices interrogated	15 max per HART loop
HART Operating Mode	Primary Master
Loop Isolation Voltage	500V dc min.
Maximum Loop Voltage	40Volts
Minimum loop load resistance	230ohms
Maximum loop load resistance	1100ohms
HART Transmitter signal levels	400mV p-p min 600mV p-p max
HART Receiver sensitivity	120mV p-p min 2000mV p-p max
HART Receiver threshold (Must ignore)	80mV
DC load impedance	2microamps max at 60deg C 40Volts
AC load impedance	22 microFarads typical

HART Wiring Recommendations	
Maximum Cable Impedance	R x C must be less than 65us (e.g. 300ohms x 0.2uF = 60us) (R includes load resistance) (C includes field device capacitance)
Cable Type	Overall screen recommended Individually screened pairs over 1500m
Loop Power Supply Maximum Ripple	0.2V p-p (47-125Hz)
Loop Power Supply Maximum Noise	1.2mV (500Hz – 10kHz)
Loop Power Supply Impedance	10ohms