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## Addendum 2408/2404 Controllers: Enhancements to Software Version 4

This addendum describes enhancements made to the following controllers:-

Standard controllers – which include programmers with up to 4 programs	Version 4.09
Setpoint programming controllers up to 20 programs	Version 4.59
Profibus controllers - which include programmers with up to 4 programs	Version 4.29



The following enhancements have been added:-

- Isolated single Logic Output Module
- Transducer Power Supply Module to provide 5 or 10Vdc to an external transducer
- DeviceNet Communications
- Linear over range limits are now +5% of high instrument range and -5% of low instrument for all process input ranges (i.e. 0-20mA, 4-20mA, 0-10V)
- Sensor break or input open circuit faults are now detected on all analogue inputs (PV1, PV2 and remote input channels)
- PV2 alarm, full scale high and low limits now default to maximum and minimum display limits
- Deviation alarms are now not inverted when direct acting control is selected. Alarm behaviour when using reverse acting control is unchanged
- The PD Track, (*PdTr*) valve-positioning parameter has been removed.

### Related Information

Installation and Operation Handbook for 2408 and 2404 controllers, Part Number HA025132, issue 8.1.

DeviceNet Communications Handbook Part Number HA027506 issue 1.0. which includes the parameter address map.

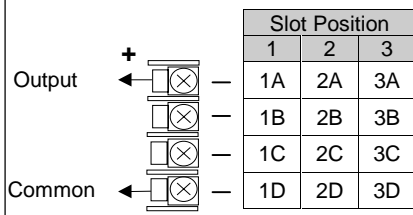
These handbooks are also available on the Eurotherm web site  
[//http://www.eurotherm.co.uk/pdfs](http://www.eurotherm.co.uk/pdfs).



## MODULE WIRING CONNECTIONS

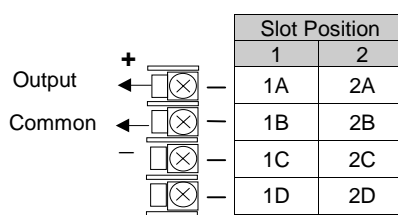
### Isolated Logic Output

This is a fully isolated module which can be fitted into module slots 1, 2 or 3. It may be used for heating, cooling or event outputs up to 18Vdc at 20mA.



### Transducer Power Supply

This provides fully isolated 5 or 10Vdc to power external transmitters up to 20mA. It can be fitted in module slots 1 and 2.



## MODULE CONFIGURATION

Enter configuration level as described in the Installation and Operation Handbook, Chapter 6.

### Configuration of the Isolated Logic Output

The configuration is the same as for the non-isolated Logic Output module described in Chapter 6 of the above handbook.

### Configuration of the Transducer Power Supply

To configure the choice of output voltage; 5 or 10Vdc:-

Do This	The Display You Should See	Additional Notes
1. Press  as many times as necessary to select the slot position in which the Transducer Power Supply module is fitted		The Transducer Power Supply module can be fitted in positions 1, and 2. The display will show 1A, or 1b accordingly
2. Press  to read the identity of the module		This is read only where: 50.5u = Transducer Power Supply
3. Press  (twice) to read '5En5'		1nu = 10Vdc      n0r = 5Vdc
4. Press  or  to select '1nu' or 'n0r'		The Transducer Power Supply uses existing software written for digital modules. A list of parameters follow which are not applicable to this module. It should be noted, however, that, for the output voltage to be set as above, <b>all</b> of the parameters which follow '5En5' should be set to 'n0r'.

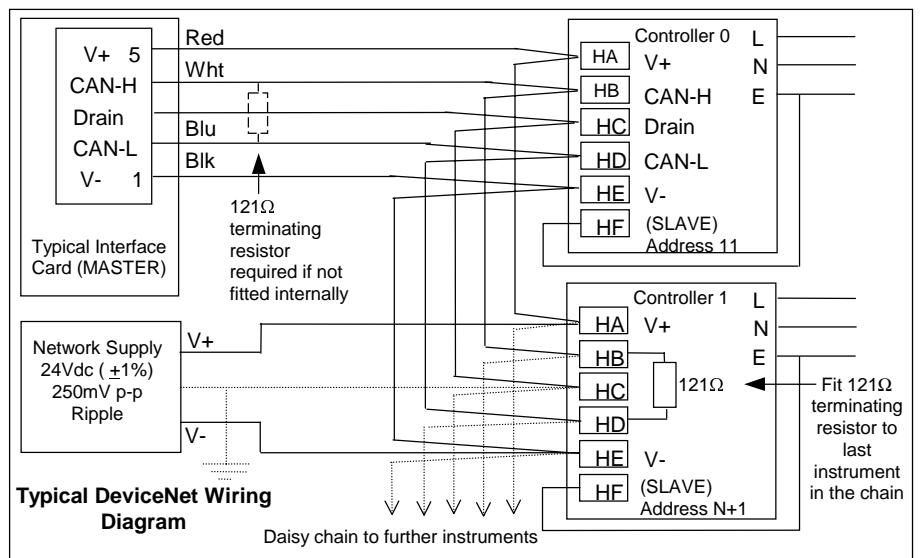
## DEVICENET WIRING CONNECTIONS

Terminal Reference	CAN Label	Color Chip	Description
HA	V+	Red	DeviceNet network power positive terminal. Connect the red wire of the DeviceNet cable here. If the DeviceNet network does not supply the power, connect to the positive terminal of an external 11-25 Vdc power supply.
HB	CAN_H	White	DeviceNet CAN_H data bus terminal. Connect the white wire of the DeviceNet cable here.
HC	SHIELD	None	Shield/Drain wire connection. Connect the DeviceNet cable shield here. To prevent ground loops, ground the DeviceNet network in only one location.
HD	CAN_L	Blue	DeviceNet CAN_L data bus terminal. Connect the blue wire of the DeviceNet cable here.
HE	V-	Black	DeviceNet network power negative terminal. Connect the black wire of the DeviceNet cable here. If the DeviceNet network does not supply the power, connect to the negative terminal of an external 11-25 Vdc power supply.
HF			Connect to instrument earth






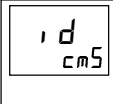



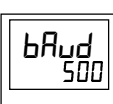



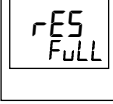


Note: Power taps are recommended to connect the DC power supply to the DeviceNet trunk line. Power taps include:

- A Schottky Diode to connect the power supply V+ and allows for multiple power supplies to be connected.
- 2 fuses or circuit breakers to protect the bus from excessive current which could damage the cable and connectors.
- The earth connection, HF, to be connected to the main supply earth terminal.



## DEVICENET CONFIGURATION


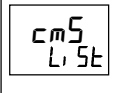





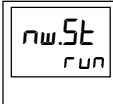
To configure Function, Baud Rate, Resolution and Node Address:-

Do This	The Display You Should See	Additional Notes
1. Press  as many times as necessary to select 'HA'.		This is the position in which the DeviceNet module is fitted
2. Press  to read 'd'.		If the module is present 'd' = <b>cm5</b> (digital communications) or 'none' if the module is not present
3. Press  to read 'Func'.		If the DeviceNet module is fitted 'Func' = 'dnEt' and will be read only
4. Press  to read 'bAud'.		Baud rate can be set to 125(K), 250(K) or 500(K)
5. Press  or  to select the baud rate		
6. Press  to read 'rES'.		'Full' the decimal point position is implied, eg 100.1 is transmitted as 1001.
7. Press  or  to select 'Full' or 'int'.		'int' rounded to the nearest the integer value

Node Address is set up in Operator or Full level

Exit configuration level as described in the Installation and Operation Handbook, Chapter 6.

Then:-

1. Press  as many times as necessary to select 'cm5'.		
2. Press  to read 'Addr'.		Valid addresses are from 0 - 63
3. Press  or  to select the address for the instrument		
4. Press  to read 'nw.5t'.		Indicates the network status:- 'run' = network connected and operational 'rdy' = network connected but not operational 'OFFL' = network not connected