CE EN-61010-1 Security

CE EN-61326-1 Electromagnetic C.

Q ISO 9001 Certified Quality

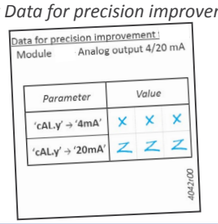
1. Characteristics

Modules 'PCE-DPD-U/A1' provide 4/20 mA analog output signal, to be installed on slot 'Opt.1' on instruments. Installing a 'PCE-DPD-U/A1' module is fast, with the only help of a flat screw driver to unlock the housing clips and a minimum configuration explained in this document. The 'PCE-DPD-U/A1' module provides 4/20 mA signal, isolated, proportional to the instrument reading, scalable both with positive or negative slope, and can be connected to generate active or passive loops.

Material included with the reference PCE-DPD-U/A1

1x Module 'PCE-DPD-U/A1'

1x Data for precision improvement



1x Female screw clamp for conexion

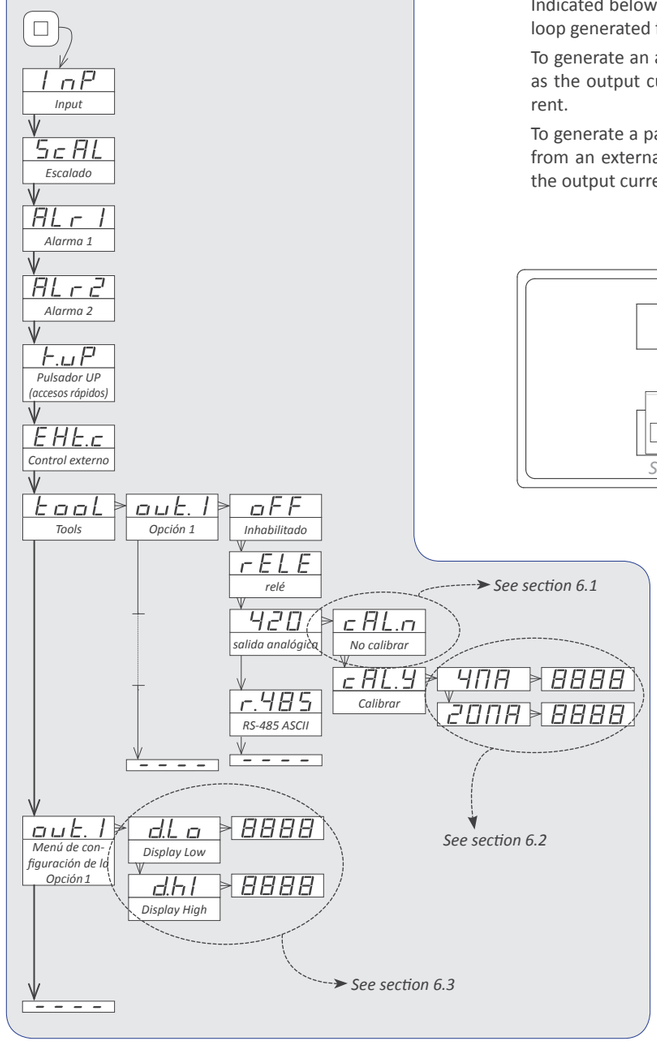
Before proceeding to install the module, remove all terminal connections from power lines, input signal and controls.

2. Additional documentation

If you need additional information, you can download the full User's Manual or check the QR to go to www.pce-instruments.com

www.pce-instruments.com

3. Configuration menu



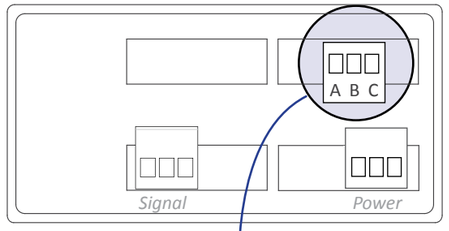
4. Connections

Indicated below are the connections for a 4/20 mA signal loop generated from a module 'PCE-DPD-U/A1'.

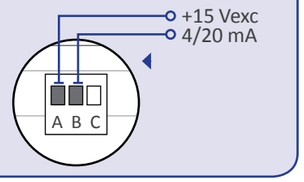
To generate an active 4/20 mA loop, connect terminal 'A' as the output current, and terminal 'B' as the input current.

To generate a passive 4/20 mA loop (the loop is powered from an external power supply), connect terminal 'C' as the output current, and terminal 'B' as the input current.

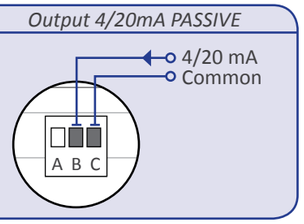
Option PCE-DPD-U/A1 *in Slot 1*



Output 4/20mA ACTIVE



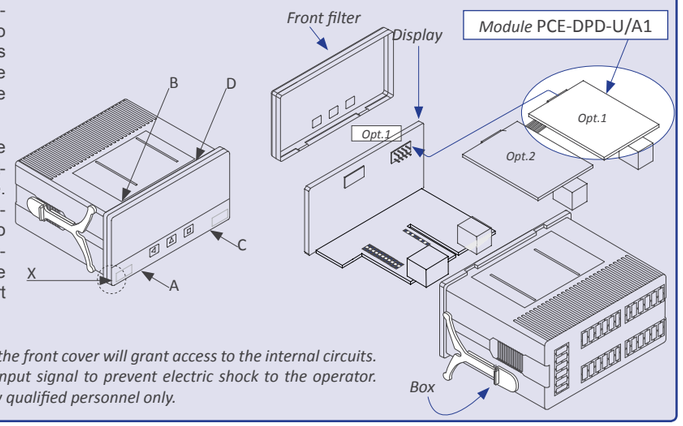
Output 4/20mA PASSIVE



7. How to open the instrument

To open the housing and access the internal circuits, use a flat screwdriver to unlock clips 'D', 'C', 'B' and 'A', in this order. Remove the front filter. Let the inside of the instrument slide out of the housing.

To reinsert the instrument make sure that all modules are correctly connected to the pins on the display module. Place all the set into the housing, assuring that the modules correctly fit into the internal guiding slides of the housing. Once introduced, place again the front filter at cover 'X', and then insert clips 'A', 'B', 'C' and 'D', in this order.



Risk of electric shock. Removing the front cover will grant access to the internal circuits. Disconnect the power and the input signal to prevent electric shock to the operator. Operation must be performed by qualified personnel only.

5. How to install the module

1. Open the housing (see section 7)
2. If a module exists on slot 'Opt.1', take it out
3. Install module 'PCE-DPD-U/A1' at slot 'Opt.1' and then the instrument
4. Close the housing (see section 7)
5. Configure module 'PCE-DPD-U/A1' and scale it (see section 6))

6. Configuration for module 'PCE-DPD-U/A1' and scaling

Once installed, the instrument must be informed that such module is installed at Slot 'Opt.1' and configure the adjust for the analog output 4/20mA

To do it, go to parameter 'Tool' → 'out.1' and select value '420'. Validate 'cAL.n' and leave the menu saving. A step-by-step process is indicated below :

6.1 Activate the module PCE-DPD-U/A1

- enter the configuration menu pressing key 'SQ' (■). Meter shows 'InP'
- press key 'UP' (▲) several times until parameter '**TooL**' is displayed
- press key 'SQ' (■) to enter the '**TooL**' menu, message '**out.1**' is displayed
- press key 'SQ' (■) to enter the '**out.1**' menu, message '**oFF**' is displayed
- press key 'UP' (▲) until value '**420**' is displayed
- press key 'SQ' (■) to enter the '**420**', message '**cAL.n**' is displayed
- press key 'SQ' (■) to validate'**cAL.n**', then '**out.1**' appears again
- press key 'LE' (◀) several times to leave the configuration menu saving new parameters
- when leving the menu the instrument restarts to apply the new changes, and shows the new parameters configuration. Now analog output is activated and functional.

6.2 Introduce the data for precision improvement for the output

Parameters by default are :

'**cAL.y**' → '**4mA**' = 100

'**cAL.y**' → '**20mA**' = 900

Correct the values 100 and 900 with the values supplied in the sheet attached to the module "**Data for precision improvement**" for the analog output 4/20mA

- press key 'SQ' (■) to enter the menu
- press key 'UP' (▲) until reach parameter '**TooL**'
- press key 'SQ' (■) 3 times to enter to '**TooL**' → '**out.1**' → '**420**' →'**cAL.n**'
- press key 'UP' (▲) until reach parameter '**cAL.y**'
- press key 'SQ' (■) to enter '**cAL.y**', it shows '**4mA**'
- press key 'SQ' (■) to enter '**4mA**' and modify the parameter 100 for the value supplied (value in our sample is XXX)
- enter the menu '**20mA**' and modify the parameter 900 for the value supplied (value ZZZ in our sample)
- press key 'LE' (◀) several times to go out the menu configuration saving new parameters

Data for precision improvement
Module Analog output 4/20 mA

Parameter	Value		
'cAL.y' → '4mA'	X	X	X
'cAL.y' → '20mA'	Z	Z	Z

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The entered 'cALy' values are not reseted if the "factory default" function is activated. Once entered, the data remains in the memory.

6.3 Configure output 4/20mA with the desired adjust according to the indication of the meter

Analog output is scaled with respect to the indication, with a scale 0/1000=4/20mA. To modify this scale, in the menu '**out.1**' → '**dLo**' and '**dhI**', which can be modified to scale the analog output:

- d.Lo = 0000 indication for 4 mA. Modify according to the required setting.
- d.hI = 1000 indication for 20 mA. Modify according to the required setting.

*Note : if you do not have the sheet 'Data for precision improvement' supplied with the module, but you do have a miliammeter to measure the mA generated by the loop, you can still access parameters '**cAL.y**' → '**4mA**' and '**cAL.y**' → '**20mA**' and readjust the value manually by checking the generated signal in your miliammeter.*