DAQP-CHARGE-A Module

Dynamic signal amplifier

- Supported sensors: ICP® and charge sensors
  (selection via push button)

- Input sensitivity: push button or software selection
  ICP® input: 0, 20, 40 and 60 dB
  Charge input: 0.1, 1, 10, 100 and 1000 mV/pC

- Output: acceleration, velocity and displacement

- Sensor connection: BNC connector

Module specifications

	DAQP-CHARGE-A
Supported sensors:	ICP® and charge sensors
Sensor type selection:	Push button or software
Input ranges:	
ICP® input:	0, 20, 40, 60 dB
Charge input:	0.1, 1, 10, 100, 1000 mV/pC
Gain accuracy:	1 % F.S.
Input range finetuning:	programmable
Range selection:	Push button (fixed) or software (all)
Integration:	Single (velocity), double (displacement)
LED indicators:	
Range and filter:	5 LEDs
ICP LED:	Active with connected ICP® sensor, inactive for charge input
OVL LED:	Overload control (output voltage > 5 V)
A, V and D LED:	Indicator for acceleration, velocity and displacement output
Constant current source:	3.8 to 5.6 mA, > 26 V
Filters (highpass):	0.1 Hz, 1 Hz, 10 Hz (±2 dB @ f_0)
Filters (lowpass):	100 Hz, 1, 3, 10, 50 kHz (±2 dB @ f_0)
Filter selection:	Push button or software
Filter characteristics:	Butterworth
	80 dB / decade (24 dB / octave)
Bandwidth, -3dB	0.1 Hz to 50 kHz (±2 dB @ f_0)
Typ. SNR @ max. bandwidth:	
Gain 0.1 and 1	90 dB
Gain 10	87 dB
Gain 100	73 dB
Gain 1000	54 dB
Gain 1000	60 dB @ 10 kHz
Output voltage:	±5 V (±6 V peak voltage)
Output noise:	< 8 mV (all ranges with 50 kHz filter)
RS-485 interface:	Yes
Power supply voltage:	±9 V_{DC} (±10 %)
Power consumption:	0.6 W to 1.2 W (depending on sensor)

LED state

The DAQP-CHARGE-A series module has a set of 6 LEDs showing the current input range (constant active), the filter range (flashing) and the input overload (OVL). Another 4 LEDs displays the current output state acceleration, velocity or displacement output and the input type (ICP® or charge) and the highpass filter setting.

ICP® is a trademark of PCB Piezotronics, Inc.

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Input range and filter selection

The DAQP-CHARGE-A series module has three push buttons with multiple functions.

- Range button: Push the Range button several times shortly until the LED displays the desired input range.
- Filter button: Push the Filter button once - the LEDs will flash for approx. 3 seconds and display the current lowpass filter setting.
  Push the Filter button within the three seconds several times until the flashing LED displays the desired filter range.
- Shift button: Press the Shift button for more than 5 seconds to change between ICP® and charge input. If ICP® input is selected, the C/I LED is active after sensor connection. If charge input is selected, the C/I LED is inactive.

The buttons have additional functionallity:

- Output type: Press the Shift button, keep it pressed and push the Range button to change between acceleration, velocity and displacement. The current state is displayed by the LEDs A(cceleration), V(elocity) and D(isplacement).
- Output filter: Press the Shift button, keep it pressed and push the Filter button to change the highpass filter. The highpass filter state is displayed by the 4 LEDs.

Sensor connection

ICP® or charge sensor connection

Press shift button for more than 5 seconds to select ICP® input (C/I LED is active after sensor connection) or charge input (C/I LED is inactive).

BNC to microdot adapter

One adapter is included in the shipment as standard for each DAQP-CHARGE-A module.

CAUTION

- *Mixing ICP® / Charge sensor and input will not destroy the module or the sensor, but the measured values will be incorrect.*

- *When using the fine tuning option of the input range (3686 steps per decade), the module is no longer in a calibrated state. In this case the input range LED's are not active!*