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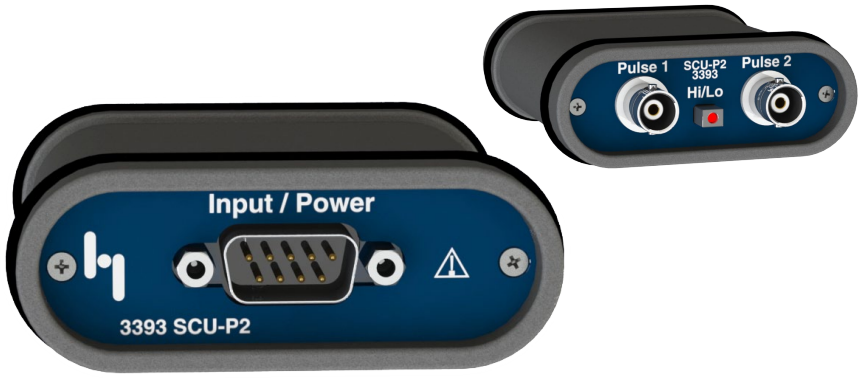
DATA SHEET

SCU-P2 (Code 3393)

Adapter for pulse signal conditioning



Overview

The purpose of the SCU-P2 adapter is to convert incoming pulse signals to a TTL-compatible signal format by amplifying them, e.g. if the signal level is too low or by transforming them to the TTL signal shape. The converted signals are then passed to a measurement front end.

Users can switch between high-speed and low-speed input signals, allowing for the processing of either short pulses without voltage offset, or long pulses with floating voltage offset.

A breakout adapter for the inputs and the power supply of the SCU-P2 is included.

Furthermore, the SCU-P2 adapter offers the possibility to supply pulse sensors with an operating voltage. With the also included plug, users can make a custom breakout cable according to their needs.

The power input is electrically isolated from the circuit of the SCU-P2 adapter. Only if the input voltage is looped through to power the sensors, the electrical isolation does not exist.

Features

- Conditioning of pulse signals
- Processing of various signal forms
- Possibility to switch between signals with
  - high pulse rate (without signal conditioning) or
  - low pulse rate (with signal conditioning and offset compensation)
- Output of TTL-compatible pulses to a front end supported by HEAD acoustics (e.g. SQobold, SQuadriga II or the HEAD*lab* controllers *lab*CTRL I.1 and *lab*CTRL I.2)
- 100 kOhm pull-up resistor at the pulse inputs
- Power supply for the SCU-P2 device and the connected pulse sensors via the included 9-pin D-Sub plug
  - The breakout cable must be made by the customer
- Electrical isolation of the inputs
  - If the input voltage is looped through to power the sensors, the electrical isolation does not exist

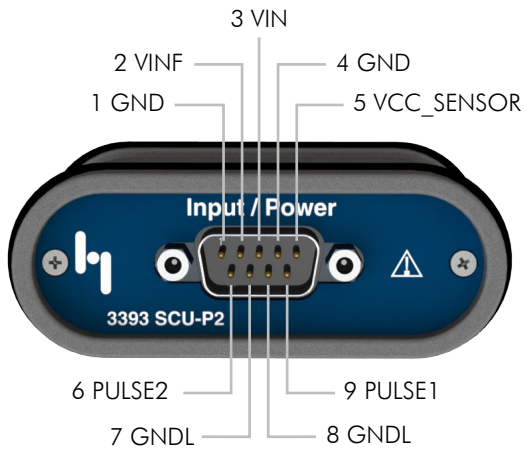
Scope of Supply

- SCU-P2 (Code 3393)
  Adapter for pulse signal conditioning
- CMD II.03 (Code 9837)
  Breakout adapter
  for the inputs and the power supply [via power supply]
  D-Sub 9 pin ↔ 2 x BNC / 1 x XLR 4-pin, 30 cm (11.8")
- D-Sub 9-pin plug for making a custom breakout cable for
  - pulse inputs
  - power supply of the SCU-P2
  - power supply of the sensors

Optional

- Power supply 15 V / 60 W / XLR 4-pin for SCU-P2
- CBB I.xx (Code 1175-xx)
  Cable BNC
  BNC ↔ BNC
- CSB VII.0 (Code 3350)
  Adapter cable
  SMB ↔ BNC
- BPB I.8 (Code 9838)
  Battery holder for 8 x AA to power supply the SCU-P2 via XLR

Pin assignment



Pin	Name	Function
1	GND	Ground for power supply input and the non-isolated output for sensor power supply
2	VINF	Non-isolated output for sensor power supply; the voltage is identical with the supply voltage for SCU-P2
3	VIN	Power supply input for SCU-P2; voltage range: 9-30 V
4	GND	Same as pin 1
5	VCC_ SENSOR	Electrically isolated output for sensor power supply; the voltage is 5 V
6	PULSE2	Pulse input channel 2
7	GNDL	Electrically isolated ground for sensor power supply and pulse inputs
8	GNDL	Same as pin 7
9	PULSE1	Pulse input channel 1

Technical Data

General

Interfaces:	D-Sub 9-pin 2 x BNC
Dimensions:	73 mm x 85 mm x 28.5 mm (2.9" x 3.34" x 1.12") (WxDxH)
Weight:	150 g (0.33 lb)
Operating temperature:	-10 °C to +60 °C (14° F to 140° F)
Storage temperature:	-20 °C to +70 °C (-4° F to 158° F)
Radiated emission according to:	EN 55011, class B
Radiated immunity according to:	EN 61326-1
ESD according to:	N 61000-4-2, sharpness level 3
Safety according to:	EN 61010-1

Inputs

Connections:	D-Sub 9-pin
Input voltage:	9 to 30 V DC
Power consumption without external sensors:	1.6 W
Max. current for both sensors, with 5 V power supply:	100 mA
Max. current for both sensors, when supplied with the input voltage:	130 mA (at +60 °C / 140° F)
Input level:	Protected up to ±50 V
Without signal conditioning Threshold: Frequency response:	 1.1 V, typ. (1.0 to 1.2 V) 0 Hz to 576 kHz
With signal conditioning Working range: at rectangular signal (50 % duty cycle) Frequency range at 60 mV_{PP}: Frequency range at 1 V_{PP}: at sinus signal Frequency range at 60 mV_{PP}: Frequency range at 1 V_{PP}:	 ±7 V 25 Hz to 50 kHz 5 Hz to 500 kHz 50 Hz to 30 kHz Hz to 500 kHz
Impedance:	≥5 kOhm, with 100 kOhm Pull-Up
Electrical isolation:	Yes (if the input voltage is looped through to power the sensors, the electrical isolation does not exist)

Outputs

Connections:	2 x BNC
Output level:	TTL
Impedance:	35 Ohm, typ.