4 channel recorder / logger

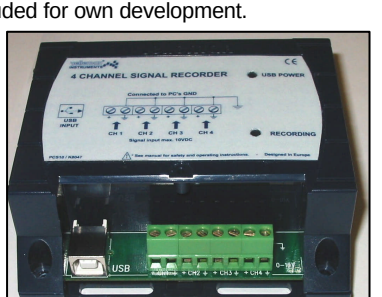
PCS10

Hardware:

- ☑ USB connected and powered.
- ☑ Four DC coupled input channels.
- ☑ Input resistance 1Mohm.
- ☑ Maximum samples per second : 100
- ☑ Four input ranges, 3V / 6V / 15V and 30V.
- ☑ Sensitivity 10mV.
- ☑ Accuracy ±3% of full scale.
- ☑ Maximum input 30Vdc.
- ☑ Power and recording/diagnostic LED indication on unit.
- ☑ Sample rate : 100S/s

Software:

- Analogue trace or digital DVM readout.
- 4 simultaneous channels recording.
- Minimum / maximum sample hold function for DVM.
- From 1 sec to 1000 sec per division.
- Storage and recall of screens (full colour) or data.
- Automatic recording option for long time recordings.
- On screen markers for time and voltage.
- DLL included for own development.



VELLEMAN Components NV
Legen Heirweg 33
9890 Gavere
Belgium Europe
www.velleman.be

Declaration of Conformity

We, Manufacturer
Velleman Components
Legen Heirweg 33
9890 Gavere
Belgium

declare that the product
PCS10 Recorder / logger

if used according the instructions included with the unit meet the directives in accordance with 89/336/EEC-EMC Directive
and

EN 55022	Limits and methods of measurement of radio interference characteristics of information technology equipment (CISPR22 limits)
EN 50082-1	Electromagnetic Compatibility - Generic immunity standard
FCC Part 15	Part B Unintentional radiators

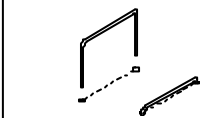
For the manufacturer

Date: 28/10/2002

Signature: _____

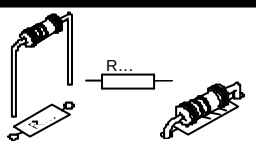
Name: Stephan Santens
R&D manager

1. Jumper



❑ J

2. Resistors

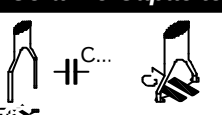


❑ R1 : 1K5 (1-5-2-B)
❑ R2 : 3K (3-0-0-1-1)
❑ R3 : 6K8 (6-8-0-1-1)
❑ R4 : 27K (2-7-0-2-1)
❑ R5 : 91K (9-1-0-2-1)
❑ R6 : 1M (1-0-0-4-1)
❑ R7 : 91K (9-1-0-2-1)
❑ R8 : 1M (1-0-0-4-1)
❑ R9 : 27K (2-7-0-2-1)
❑ R10 : 470E (4-7-1-B)
❑ R11 : 6K8 (6-8-0-1-1)
❑ R12 : 27K (2-7-0-2-1)
❑ R13 : 27K (2-7-0-2-1)
❑ R14 : 91K (9-1-0-2-1)
❑ R15 : 91K (9-1-0-2-1)
❑ R16 : 1M (1-0-0-4-1)
❑ R17 : 1M (1-0-0-4-1)
❑ R18 : 1K5 (1-5-2-B)
❑ R19 : 27K (2-7-0-2-1)
❑ R20 : 6K8 (6-8-0-1-1)
❑ R21 : 3K (3-0-0-1-1)
❑ R22 : 3K (3-0-0-1-1)
❑ R23 : 1K5 (1-5-2-B)
❑ R24 : 27K (2-7-0-2-1)
❑ R25 : 1K5 (1-5-2-B)
❑ R26 : 27K (2-7-0-2-1)
❑ R27 : 6K8 (6-8-0-1-1)
❑ R28 : 3K (3-0-0-1- 1)
❑ R29 : 27K (2-7-0-2-1)
❑ R30 : 1K5 (1-5-2-B)
❑ R31 : 470E (4-7-1-B)
❑ R32 : 1K5 (1-5-2-B)

3. IC sockets.

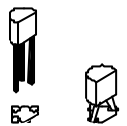
❑ IC1 : 28p
❑ IC2 : 14p

4. Ceramic Capacitors



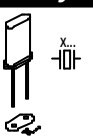
❑ C1 : 220nF (224, 0.22)
❑ C2 : 33pF (33)
❑ C3 : 33pF (33)
❑ C4 : 100nF (104, 0.1, u1)
❑ C6 : 100nF (104, 0.1, u1)
❑ C7 : 100nF (104, 0.1, u1)
❑ C8 : 100nF (104, 0.1, u1)
❑ C9 : 100nF (104, 0.1, u1)
❑ C10 : 100nF (104, 0.1, u1)
❑ C11 : 100nF (104, 0.1, u1)

5. Zenerdiode



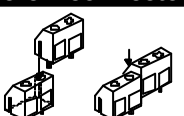
❑ ZD1 :

6. Quartz crystal



❑ X1 : 6MHz

7. Screw connectors



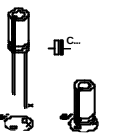
❑ J1 : 2P (CH1)
❑ J2 : 2P (CH2)
❑ J3 : 2P (CH3)
❑ J4 : 2P (CH4)

8. USB connector

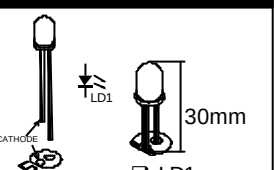
❑ J5 : USB B90

9. Electrolytic capacitors.

❑ C5 : 4,7µF/ 50V

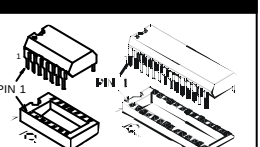


10. LED's.



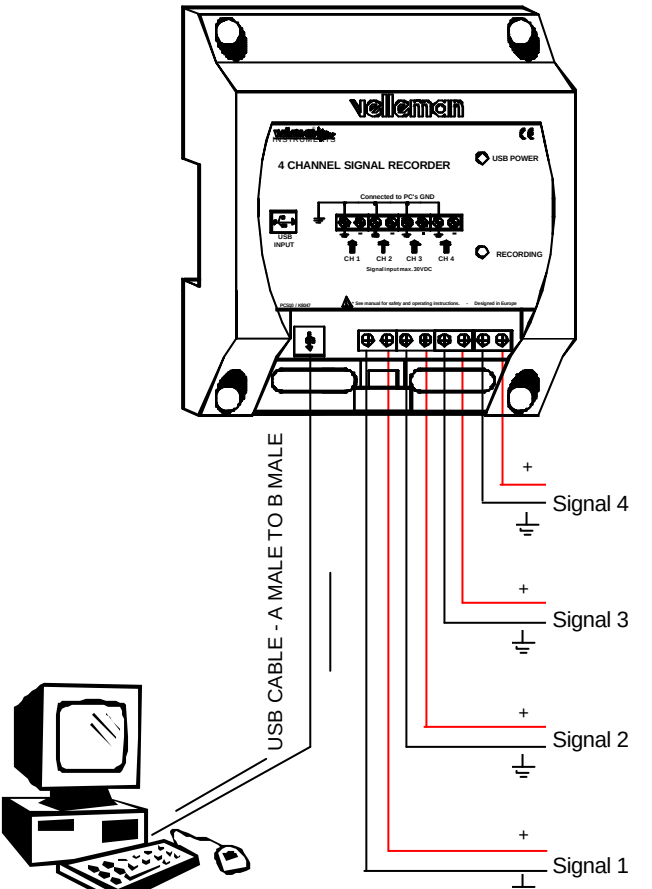
❑ LD1 : 3mm
'Red' => Recording
❑ LD2 : 3mm
'Green' => Power ON

11. IC's.



❑ IC1 : VK8047
Programmed PIC16C745-IP !
❑ IC2 : TLV274IP

Connections



Software installation and test

A. Installation :

- Install the software. If the necessary software is not inluded or if you want to check for updates, you can always download it for free from our Velleman Website www.velleman.be
- An installation wizard will guide you trough the installation procedure.
- By default the software is installed in the folder : 'C:\Program Files\Velleman\Pc-Lab2000'

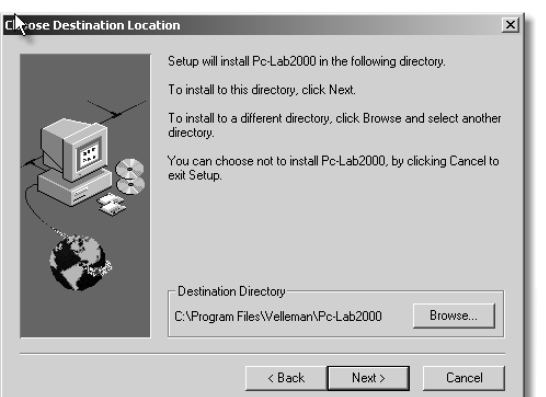


Fig 1.0

B. Test :

- Hook-up a USB cable between a free port of your computer and the K8047 (see page 8.)
- Connect a 9V battery to one of the signal inputs (CH1, CH2, CH3 or CH4), respect the polarity (+ and -)!
- Start the PC-Lab2000 software and select the appropriate device (K8047).

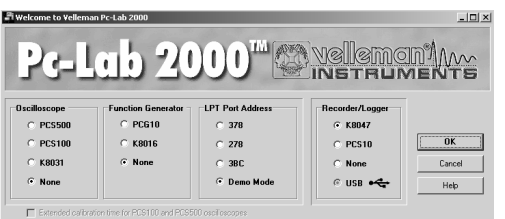


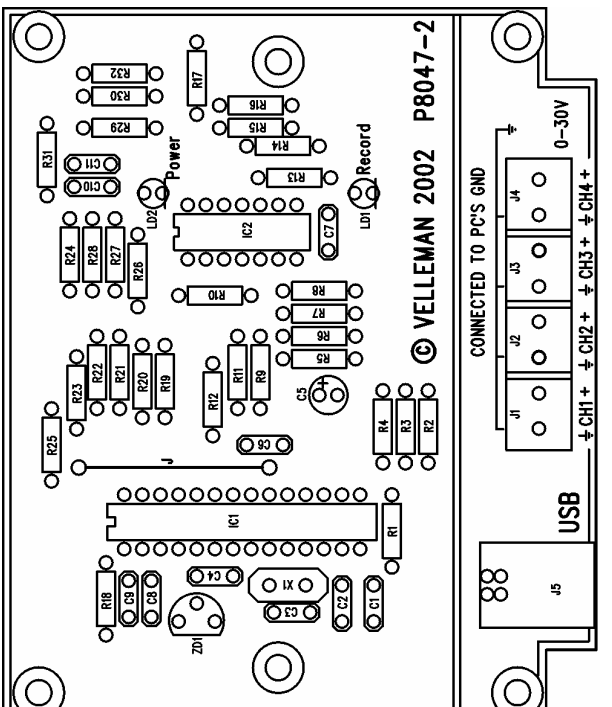
Fig 2.0

- Select 15 or 30V range.
- Press the run button.

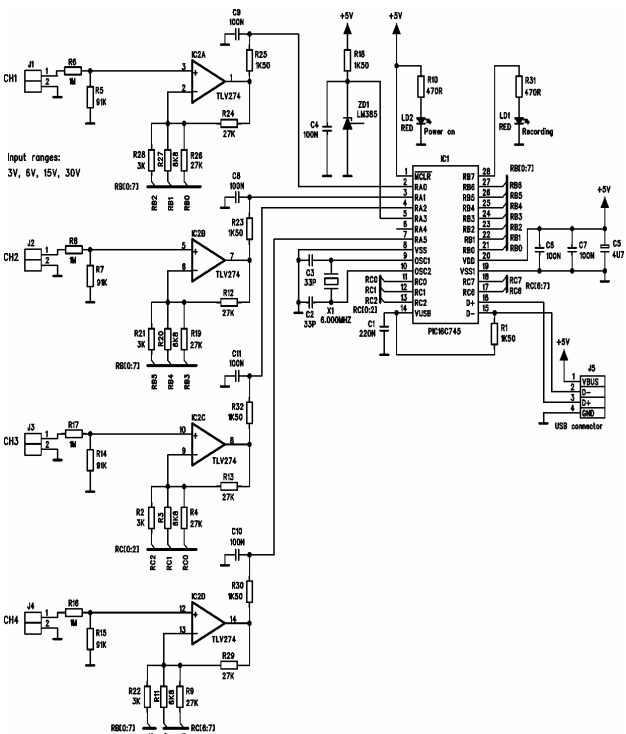
The unit is ready for use when a signal appears on the screen.

☝ Other information concerning this unit can be found on the CD.

PCB layout.


© VELLEMAN 2002 P8047-2
CONNECTED TO PC'S GND
0-30V
USB
Power
Record
J1
J2
J3
J4
J5
IC1
IC2
LD1
LD2
ZD1
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
J
X1

15. Schematic diagram.



Revision Notes:

Modifications and typographical errors reserved
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