COMMISSIONING UNIT FOR DAC-4

CU/DAC-4

FOR COMMISSIONING, TESTING, TROUBLE SHOOTING
FOR ALL SYSTEMS WHERE DAC-4 BOARDS ARE USED

- For commissioning, maintenance, tests etc of machines, systems, equipment, valves or for laboratory use
- Universal usable for all versions DAC-4 *1

- Integrated wide range power supply
- Basically all functions of DAC-4 can be tested by means of switches, potentiometers and I/O connections at front and rear
- Versions in 24 V or 12 V available

*1: DAC-4 must be ordered separately!

Neues Bild
Schrägansicht
fehlt noch!!
1 Applications and usage
CU/DAC-4 are generally used for:
- for commissioning
- for testing
- for maintenance
- during trouble shooting
- in laboratories
- used in conjunction with one DAC-4

For all systems where DAC-4 boards are used

2 Features
- Compact and light unit; easy to transport, rugged design
- 19” Rack 42TE built into a standard metal housing with carriage handles
- Wide range power supply included for easy world wide usage
- Unit is tested for safety of the insulation and effectiveness of the PE connection

3 Main technical data

<table>
<thead>
<tr>
<th>Feature</th>
<th>Range, characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>Wide range power supply. Schroff type: MAX 124; 13100-105</td>
</tr>
<tr>
<td></td>
<td>Nominal/operational: 100 - 240 V AC / 90 - 254 V; 50 / 60 Hz</td>
</tr>
<tr>
<td></td>
<td>Mains/line current @ 90 VAC: 1.6 A</td>
</tr>
<tr>
<td></td>
<td>Efficiency: 75 %</td>
</tr>
<tr>
<td></td>
<td>Current at switch-on (@ 230 VAC): &lt; 20 A</td>
</tr>
<tr>
<td></td>
<td>Output parameters:</td>
</tr>
<tr>
<td></td>
<td>max. output W (50° C): 100 / 80 W</td>
</tr>
<tr>
<td></td>
<td>Output voltage: 24 V</td>
</tr>
<tr>
<td></td>
<td>Output current: 4.2 / 3.2 A ( &lt; 50° C ) / 3.2 / 2.6 A (70° C)</td>
</tr>
<tr>
<td></td>
<td>Short-circuit protection</td>
</tr>
<tr>
<td></td>
<td>Mains/line fuse (high breaking slow): 4 A / 250 VAC, 5 x 20 mm EN60127-2/V</td>
</tr>
<tr>
<td></td>
<td>Ambient temperature operation/storage: 0 .... + 70° C / - 20 ... + 85° C</td>
</tr>
<tr>
<td></td>
<td>Detailed data sheet and CE declaration on request or download from:</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.pentairprotect.de/de/emea/13100-105-3">http://www.pentairprotect.de/de/emea/13100-105-3</a>. Version with 12 V output voltage on request!</td>
</tr>
<tr>
<td>Card slot</td>
<td>For 1 DAC-4 board. 10 TE wide with two rails and connector DIN 41 612, 48 pol. form F</td>
</tr>
<tr>
<td>Front elements</td>
<td>1 x switch power on/off; 1 x switch selection direction; 1 x switch enable</td>
</tr>
<tr>
<td></td>
<td>8 x switch digital inputs set point, reset ramp and digital inputs general</td>
</tr>
<tr>
<td></td>
<td>2 x switch analogue command selection; 2 x switch analogue feedback selection</td>
</tr>
<tr>
<td></td>
<td>2 x 10-turn potentiom. analogue command; 1 x 10-turn potentiom. analogue feedback</td>
</tr>
<tr>
<td>Rear elements</td>
<td>1 x Main in receivable (IEC 60320-1 / C13) combined with fuse; 1 x mains on/off switch</td>
</tr>
<tr>
<td></td>
<td>1 x separate fuse</td>
</tr>
<tr>
<td></td>
<td>14 x groups of 4 mm jacks for all kinds of analogue and digital I/O signals (35 jacks total)</td>
</tr>
<tr>
<td></td>
<td>1 x 3.5 mm jack for ananlogue command (tip and sleeve connector)</td>
</tr>
<tr>
<td>Housing</td>
<td>Compact housing with two handles</td>
</tr>
<tr>
<td></td>
<td>Housing configuration: ventilated (IP20)</td>
</tr>
<tr>
<td></td>
<td>Material: complete metal</td>
</tr>
<tr>
<td></td>
<td>Dimensions approx.: (w x h x d) 235 (247) x 132 x 256 (300) mm (42 TE / 3 HE)</td>
</tr>
<tr>
<td></td>
<td>Weight: 3.2 kg (without cables and DAC-4)</td>
</tr>
<tr>
<td>Unit tested</td>
<td>In accordance with VDE 0701-1/9 and BGV A3</td>
</tr>
</tbody>
</table>

CU/DAC-4
Revision: R03

Data Sheet
05.10.2015
4 Safety and other remarks

Only authorized and trained personal should perform work at and with this unit

Before connecting the unit to mains supply make sure that nothing is damaged!

**Warning:** Do not connect the unit if the mains cord or the unit itself is damaged or if the protective earth connection is not effective!

**Disconnect mains before opening the unit!**

**Attention:** Danger of electrical shock!

The mains supply cord must be equipped with protective earth (PE green/yellow!)

The mains input is including a fuse and is on the rear side (F1: 2.5 A T for 220/240 V AC)

An additional fuse is placed above the mains connector. This fuse is protecting the secondary circuit (F2: 2.5 A T)

Some output signals are only present when a DAC-4 board is inserted.

5 Front view

Front control elements of CU/DAC-4:

<table>
<thead>
<tr>
<th>#</th>
<th>Feature, element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wide range power supply. Schroff type: MAX 124; 13100-105 Details see previous page!</td>
</tr>
<tr>
<td>2</td>
<td>DAC-4 board; all versions possible. Please order separately.</td>
</tr>
<tr>
<td>3</td>
<td>Power on/off for DAC-4</td>
</tr>
<tr>
<td>4</td>
<td>Digital input „Direction +“ / „Direction -“</td>
</tr>
<tr>
<td>5</td>
<td>Digital input „Enable“</td>
</tr>
<tr>
<td>6</td>
<td>Digital inputs „Set point 1 - 4“ („Sp1“, „Sp2“, „Sp3“, „Sp4“)</td>
</tr>
<tr>
<td>7</td>
<td>Digital inputs „Reset Ramp“ (Rp0); Digital „I/O 1 - 3“ („Io1“, „Io2“, „Io3“)</td>
</tr>
<tr>
<td>8</td>
<td>Selection switches for analogue command input „S1.05“ and „S1.06“</td>
</tr>
<tr>
<td>9</td>
<td>10 turn potentiometers for analogue command input „S1.05“ and „S1.06“</td>
</tr>
<tr>
<td>10</td>
<td>Selection switches for analogue feedback input „Fb1“ and „Fb2“</td>
</tr>
<tr>
<td>11</td>
<td>10 turn potentiometer for analogue feedback input „Fb1“ / „Fb2“</td>
</tr>
</tbody>
</table>
### Rear view

Rear connection elements of CU/DAC-4:

<table>
<thead>
<tr>
<th>#</th>
<th>Feature, element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mains on/off switch (illuminated)</td>
</tr>
<tr>
<td>2</td>
<td>Secondary fuse F2 (2.5 A T)</td>
</tr>
<tr>
<td>3</td>
<td>Mains in receptacle</td>
</tr>
<tr>
<td>4</td>
<td>Primary fuse (2.5 A M)</td>
</tr>
<tr>
<td>5</td>
<td>Label for performed BGV A3 test</td>
</tr>
<tr>
<td>6</td>
<td>Digital output „Error” (24 V)</td>
</tr>
<tr>
<td>7</td>
<td>Digital inputs „Enable“ and „Reset Ramp“</td>
</tr>
<tr>
<td>8</td>
<td>Digital outputs „Comparator“ and „Break“ (24 V)</td>
</tr>
<tr>
<td>9</td>
<td>Digital inputs „Set point 1 - 4“ (S1.01&quot;, S1.02&quot;, S1.03&quot;, S1.04&quot;, S1.06&quot;, DIO1&quot;)</td>
</tr>
<tr>
<td>10</td>
<td>Analogue input set point „S1.06“</td>
</tr>
<tr>
<td>11</td>
<td>Digital I/O „DIO2“, „DIO3“</td>
</tr>
<tr>
<td>12</td>
<td>Digital inputs „Direction +“, „Direction -“</td>
</tr>
<tr>
<td>13</td>
<td>Supply out 24 V DC</td>
</tr>
<tr>
<td>14</td>
<td>Analogue input set point „S1.05“; 3 mm jack</td>
</tr>
<tr>
<td>15</td>
<td>Reference voltage out „+ 10 V DC“, „-10 V DC“</td>
</tr>
<tr>
<td>16</td>
<td>Analogue input feedback 1 and 2 „Fb1“, „Fb2“</td>
</tr>
<tr>
<td>17</td>
<td>Analogue output „+/- 10 V“</td>
</tr>
<tr>
<td>18</td>
<td>Analogue input set point current „S1.07“</td>
</tr>
<tr>
<td>19</td>
<td>Solenoid output A „IA“</td>
</tr>
<tr>
<td>20</td>
<td>Solenoid output B „IB“</td>
</tr>
</tbody>
</table>
7 Accessories and Options

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAC-4</td>
<td>Please order separately. Refer to DAC-4 data sheet for details</td>
</tr>
<tr>
<td>HCSTool</td>
<td>Software for parameterization, operation, monitoring, storage and documentation of adjustments. In English, French and German on CD (free download available). Please follow this link in order to download the most recent version of HCSTool: <a href="http://www.h-c-s-gmbh.de/download/">http://www.h-c-s-gmbh.de/download/</a></td>
</tr>
<tr>
<td>DAC-4-PC-2xDS9F</td>
<td>Interface cable for communication between PC and DAC-4 for direct usage at RS232 interface; 2 x Sub-D 9-pole connector female</td>
</tr>
<tr>
<td>USB-RS232-DS9F</td>
<td>As above but w. USB-adaptor. 1 x connector Sub-D 9-pole, w. 2,5 or 10 m cable</td>
</tr>
<tr>
<td>EKB-04</td>
<td>EKB-04 Handheld keypad and display unit for parameter setting and copying</td>
</tr>
</tbody>
</table>

*Not to scale!*

 DAC - all versions *1*

<table>
<thead>
<tr>
<th>HCSTool</th>
<th>Interface Cable</th>
<th>Interface Cable</th>
<th>EKB-04</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="HCSTool.png" alt="Image" /></td>
<td><img src="Interface_Cable.png" alt="Image" /></td>
<td><img src="Interface_Cable.png" alt="Image" /></td>
<td><img src="EKB-04.png" alt="Image" /></td>
</tr>
</tbody>
</table>

*1: CU/DAC can not be used for DAC-4 with PROFIBUS interface!*

8 Ordering code

- **Commissioning Unit**
  - DAC-4
  - S0

- **Version**
  - DAC-4 = for DAC-4 boards

- **Special Options**
  - S12V = power supply with 12 V DC output
  - SUSA = cable with connector for US receptacle

**Ordering code example:**

Version with 12 V power supply and standard European mains cable

**CU/DAC-4-S12V**
## Our partners and distributors

### Europe

#### Norway, All Nordic Countries

**Servi Hydranor AS**  
Rasmus Solbergs vei 1  
N-1400 Ski  
Norway  
Tel.: (+47) 64 - 979 797  
Fax: (+47) 64 - 979 899  
Borre.Kleven@servi.no  
www.servi.no

#### Sweden I (South-West)

**PMC Hydraulics AB**  
Askims Verkstadsväg 15  
Box 1013  
SE-43621 Askim  
Sweden  
Tel.: (+46) 31 - 28 98 40  
Fax: (+46) 31 - 28 64 01  
Per-Anders.Kallden@pmchydraulics.se  
www.pmchydraulics.se

#### Sweden II (North-East)

**Norrlands Hydraulik**  
Stenhuggargatan 4  
SE-913 35 Holmsund  
Sweden  
Tel.: (+46) 70 - 646 57 57  
kurt.w@norrhyd.se  
www.norrlandshydraulik.se

#### Switzerland

**GRIBI Hydraulics AG**  
Lättenstr. 33  
CH-5922 Schlieren  
Switzerland  
Tel.: (+41) 1 733 - 40 50  
Fax: (+41) 1 730 - 58 05  
info@gribi-hydraulics.ch  
www.gribi-hydraulics.ch

#### Great Britain

**Voith Turbo Ltd.**  
6 Beddington Farm Road  
Croydon, Surrey  
England CRO 4XB  
Tel: (+44) 208 667 0333  
Fax: (+44) 208 667 0403  
nick.moody@voith.com  
www.uk.voithturbo.com

#### France

**SEFYDRO**  
Pôle République 1  
23, Rue des Entrepreneurs  
BP 1086  
F-86060 POITIERS  
Tel.: (+33) 549 607 016  
Fax: (+33) 549 602 480  
bureau.etudes@sefydro.fr  
www.sefydro.fr

#### Italy

**BIMAL TESTING MACHINES S.R.L.**  
Automation & Software Department  
Zona Industriale - Via A. Monni, 18  
I-06135 Ponte Valleceppi (Perugia)  
Italy  
Tel.: (+39) 075 - 592 171  
Fax: (+39) 075 - 592 1740  
a.paolucci@bimal.com  
www.bimal.com

#### Spain I

**HRE HIDRAULIC S.L.**  
C / Ibaitarte, 21  
E-20870 Elgoibar  
Spain  
Tel.: (+34) 943 - 742 130  
Fax: (+34) 943 - 742 708  
hre-hidraulic@hre.es  
www.hre.es

#### Spain II

**GLUAL HIDRÀULICA, S.A.**  
Landeta Hiribidea, 11  
E-20730 Azpeitia (Gipuzkoa)  
Spain  
Tel.: (+34) 943 157 015  
Fax: (+34) 943 157 404  
j.valverde@glual.es  
www.glual.com
Our partners and distributors

ROW I

USA I

SERVI FLUID POWER INC.
22240 Merchants Way | Suite 100
Katy, TX 77449, USA
Tel.: (+1) 281 - 347 8080
info@servi-inc.com
www.servi-inc.com

NC SERVO TECHNOLOGY INC.
38422 Webb Drive
Westland, MI 48185-1974, USA
Tel.: 1-800 327 - 3786
Tel.: (001) 734 - 326 6666
Fax: (001) 734 - 326 6669
sales@ncservo.com
www.ncservo.com

USA II

USA III

HAWE HYDRAULIK
Hawe Hydraulik - East
9009-K Perimeter Woods Drive
Charlotte, NC 28216, USA
Tel: (+1) 704 509 1599
Fax: (+1) 704 509 6302
sales@hawehydraulics.com
www.hawe.com

HAWE HYDRAULIK
Hawe Hydraulik - Central
10920 W. Sam Houston Pkwy N.
Suite 700
Houston, TX 77064
Tel: (+1) 713 - 300 3260
Fax: (+1) 281 - 970 6692
sales@hawehydraulics.com
Also:
Cell: (+1) 832 - 797 4608
m.paxton@hawehydraulics.com
www.hawe.com

USA IV

USA V

CAnada and USA VI

HYDRA-FAB
FLUID POWER INC.
3585 Laird Road Unit 5
Mississauga, Ontario L5L 5Z8
Canada
Tel.: (+1) 905 - 569 1819
Fax: (+1) 905 - 569 7801
rgores@hydrafab.com
www.hydrafab.com

BRASIL, SOUTH AMERICA

Voith Turbo Ltda
Av. Fernando Stecca, 575
Alto da Boa Vista
BR - 18087 - 450 Sorocaba / SP
Tel.: (+55) 15 228 1114
Fax: (+55) 15 228 1115
friedrich.guther@voith.com
www.hl-hydraulic.com
ROW II

ASIA

KC Kim Consulting GmbH
Support in German, English, Chinese and Korean
Industrial Engineering Im- und Export
Lilienthalstr. 3
D-30916 Isernhagen
Tel: +49 (0)511-898809-17
Fax: +49 (0)511-898809-29
c.kim@kc-co.com
info@kc-co.com
www.kc-co.com

AUSTRALIA I (Brisbane)

Hydraulic Specialists Australia Pty Ltd
21 Production Street, Wacol
Queensland, Australia, 4076
Tel: +61 (07) 3879 4400
Fax: +61 (07) 3879 4333
brisbane@hsaus.com.au
lharley@qldhsaus.com.au
www.hsaus.com.au

AUSTRALIA II (Melbourne)

Hydraulic Specialists Australia Pty Ltd
9 National Drive, Hallam
Victoria
Australia, 3803
Tel: +61 (03) 9796 5433
Fax: +61 (03) 9796 4955
melbourne@hsaus.com.au
lharley@qldhsaus.com.au
www.hsaus.com.au

INDIA

Greentech Engineers Australia
Mr. Vish Karegowda
Mount Waverley, Victoria
Australia, 3149
Tel: +61(03) 9803 5941
contact@greentechea.com.au
www.greentechea.com.au
Skype: grnhorizon