DIGITAL PRESSURE REGULATOR DPR 20 C

PRESISION PRESSURE CONTROLLER / CALIBRATOR

TECHNICAL INFORMATION

The **DPR 20 C** Digital Pressure Controller can be used in a wide range of applications in research, industrial laboratories, aerospace and similar activities. The **DPR 20 C** Digital Pressure Controller uses state of the art microprocessor based techniques. It is a transfer calibration standard which measures and controls pressure values with a very high resolution and accuracy.

ADVANTAGES

- High system-accuracy
- IEEE-488 interface standard
- Analoque outputs standard
- Menu driven with clear operational instructions
- Automatic offset self-test
- Excellent controller stability
- Free selectable ranges and pressure units
- Digital input with pressure storage function
- Two potential free IEEE-488 switching contacts
- One potential free limit switch
- Code protected setting-menu
- CE-marked and EMC-tested
- DKD-Calibration on request

GENERAL DESCRIPTION

The **DPR 20 C** is easy to handle and does not require special programming knowledge. The software provides total flexibility with respect of set-point selections and range dividing in a linear or square root function. Operator controls using a membrane keyboard on the front panel or an IEEE-488 Interface for a fully computer controlled operating. Analoque outputs and the IEEE-488 Computer interface are standard features.

The **DPR 20 C** is available in single range or dual range version. The dual range controller is provided with two separated pneumatic systems. This arrangement makes it possible that any requested range combinations can be realized without compromises to the controllers function. The lower range of the **DPR 20 C** will be saved by overload using an internal pressure reducing system which also furnishes an independence of the pressure supply.

The connectors for pressure and vacuum supply are located at the rear panel. The instruments to be checked can be connected by choise at special quick connectors on the front – or rear panel.

The reference pressure output signal processed in the pressure measuring system is transmitted to the digital PI-controller. The controller offers a wide dynamic capability and can be adjusted either for an aperiod regulation or for a quicker regulation with overshoot characteristic.

The **DPR 20 C** offers the capability of an “AUTO-OFFSET“ tuning that means that offset values of the control-valves will be determined by an automatic mode. This self-adjustement can be released manually using the keyboard-system or automatically via the IEEE-488 databus.

The accuracy of pressure measuring system is 0.03 % of full scale. This value includes also errors as a result of non linearity, hysteresis and thermal effects. The Controller stability is 0.01 % of full scale or ±1 digit.

WALLACE & TIERNAN
LEADER IN QUALITY
DIN EN ISO 9001 certified
DKD-K-02301 DIN EN ISO/IEC 17025

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TECHNICAL DATA

PRESSURE MEASURING SYSTEM

Accuracy:
0.03 % of full scale
(non linearity, hysteresis and temperature errors included)

Resolution:
max. 22 000 digits

Temperature compensation:
compensated between 10 °C and 30 °C ambient temperature (max. temperature change 6 °C/h)

Overpressure rate:
ranges up to 1 bar: 400 % of full scale
up to 10 bar: 250 % of full scale
up to 20 bar: 200 % of full scale

Zero control:
tare zero correction by keypress or automatic (programmable by computer system)

Dual range:
dual range version is available in any requested range combination

Pressure scales:
pressure scales selectable in two different units

CONTROLLER SYSTEM

Controller stability:
0.005 % of full scale or min. ±1 digit

Controller response:
dependend on rate control settings (typical 5 s)

Rate control:
programmable for different applications
(no overshoot capability possible)

Pressure supply:
10 – 20 % above full scale value. For dual-range version related to higher range

ELECTRICAL OUTPUTS

Analoque outputs (standard):
analoque outputs 0 … ±2 V and 0/4 … 20 mA
Accurarcy ≤ 0.1 FS

Computer interface (standard):
IEEE-488 interface
(function SH1, AH1, T6, L4, SR1, RL, DC1)

Relay outputs:
max. switching voltage 250 V AC / 220 V DC
max. switching power 1250 VA / 150 W

Digital input:
24 V AC / DC; galvanically isulated to earth up to 500 V

FURTHER DATA

Power supply:
230 V (± 15 %), 50/60 Hz or 115 V (± 15 %), 50/60 Hz
approx. 28 VA
Pressure connection:
1/8" NPT (female), fitted out with quick connectors

Dimensions (W x H x D):
19"-System, 301.9 x 132.5 x 272.2 mm

Weight:
approx. 8 kg, single range controller
approx. 10 kg, double range controller

OPERATING PRESSURE RANGES

Ordering No.	Range		Resolution	
Gauge pressure:				
995-G-1	0 … 100	mbar	0.01	mbar
995-G-2	0 … 200	mbar	0.01	mbar
995-G-3	0 … 1	bar	0.0001	bar
995-G-4	0 … 2	bar	0.0001	bar
995-G-5	0 … 10	bar	0.001	bar
995-G-6	0 … 20	bar	0.001	bar
Vacuum / compound pressure:				
995-C-1	–100 … 1000	mbar	0.1	mbar
995-C-2	–1 … 0 … 10	bar	0.001	bar
995-C-3	–1 … 0 … 1	bar	0.0001	bar
995-V-1	–100 … 0	mbar	0.01	mbar
995-V-2	–1 … 0	bar	0.0001	bar
Absolute pressure:				
995-A-1	0 … 1100	mbar	0.1	mbar
995-A-2	0 … 2	bar	0.0001	bar
995-A-3	0 … 10	bar	0.001	bar
995-A-4	0 … 20	bar	0.001	bar

ORDERING INFORMATION

When ordering, please give:
ordering number; range; pressure unit (units); bench or panel mounting version; 230 V or 115 V power supply

WALLACE & TIERNAN

Belgium
EMTEC
F. Pelletier Street 56, Bus 15
1030 Bruxelles, BELGIUM
Tel.: +32 2736 89 60, Fax: +32 2733 01 73
Email: info@emtec-instruments.be

Germany
WALLACE & TIERNAN GmbH
Auf der Weide 10
D-89312 Günzburg, GERMANY
Tel.: +49 8221-9040, Fax: +49 8221-904140
Email: wtger@chemfeed.org

France
WALLACE & TIERNAN S.A.R.L.
BP 150, 1/3 rue Pavlov
F-78196 Trappes Cedex, FRANCE
Tel.: +33 1-34 82 18 50, Fax: +33 1-30 50 98 08
Email: mullerJ@usfinternational.com

Norway
Fly & Industri, Instrumenter AS
Hauketoveien 11
N-1266 Oslo, NORWAY
Tel.: +47 22 61 1480, Fax: +47 22 75 4781
Email: firmapost@flyindustri.no

Austria
Schmachtl KG
Pummerstraße 36
4020 Linz, AUSTRIA
Tel.: +43 732 7646-0, Fax: +43 732 785036
Email: office.linz@schmachtl.at

SERKAL GmbH
Kreuzwiesengasse 12
2111 Harrmannsdorf, AUSTRIA
Tel.: +43 226426951, Fax: +43 226426952
Email: winkler@serkal.com

Poland
Radiotechnika
Marketing Sp. z.o.o.
Ul. H. Sienkiewicza 6 a
50335 Wroclaw, POLAND
Tel.: +48 713453669, Fax: +48 713211612
Email: office@radiotechmkt.com.pl

Spain
GOMETRICS, S.L.
POL. IND. RIERA DA CALDES
C/. BASTERS, 17
08184 PALAU-SOLITA I PLEGAMANS, BARCELONA
Tel.: +34 93 864 6843, Fax: +34 93 864 8218
Email: comercial@gometrics.net

Turkey
BiS Sistem Entegrasyon Elektronik
Bilisim Hizmetleri Ticaret Ltd.
Uzuncayir Cad. No: 31. D1-Blok. Da; 9
81010 Kadiköy – Istanbul
Tel.: +90 216 326 1695, Fax: +90 216 326 8656
Email: bisltd@atlas.net.tr

Czechia
BHV senzory
Suchdolská 4
Sedlec
CZ 160 00 Praha 6, CZECH REPUPLIC
Tel.: +420 220 920 253, Fax: +420 220 922 036
Email: bhvsenzory@bhvsenzory.cz

Due to continual product development and improvement, certain specifications may change without prior announcement.

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