BD300

DATA ACQUISITION RECORDER

FEATURES

- **4, 6 or 8 channels**
- **Data logging frequency up to 400hz, 20 bit measurement resolution**
- **Inputs for any channel**
- **Built-in USB slot and optional printer, with unique synchronous printing**
- **Easy to use**
- **Controller function**
- **Data integrity**

ABOUT

The BD300 is a general purpose measurement tool ideal for many types of test & measurement applications in scientific, laboratory, industrial and technical environments. Independent from the input source the output data can be user defined and displayed in any engineering unit.

(e.g. mbar, °C, kJoule, hPa, W/m2, RPM, kW, V, A, Hz)

The BD300 can function as a 'controller'. The instrument watches over the measuring process and is capable of reacting in case certain alarm limits are being exceeded. This reaction may be manifested as: an alarm, switching on/off a pump or other instrument, starting data acquisition, etc.

In total 43 functions are available

Connection to a PC or network via the BD300's RS-232C interface. This allows communications with the recorder and data transfer (logging) directly to the hard disk of the PC. An internal USB (4GB) port is standard, allowing data logging to a removable memory device without the need of a PC. An optional HP Inkjet printer head allows printing of axis annotation, actual data, alarm messages, settings etc. that are synchronous in time with the written signals.

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This Data Acquisition Recorder features an unique and intuitive User Interface which allows easy set-up and display of all recorder functions with random access to all menus. Four (4) instrument settings files can be stored, under an user defined name, for immediate recall at any time.

Together with its built-in intelligence, the BD300 offers you a flexible, high performance measurement solution for demanding applications.

USB

Data can also be stored on an USB disk in compressed form. The Windows® program WTools is available that allows the decompression of the data into ASCII format. These data can be directly read into Excel®, Mathcad® and other spreadsheet programs.

The USB memory drive can be used to acquire data and to store 16 additional settings files independent from a PC. All user scan have their own BD300 by using the Auto Disk function.
The user specific settings file is loaded into the BD300 at power-up so that you can start recording immediately.

The Plug-Measure-Control (PMC) concept is a new approach to data acquisition and recording.
It greatly simplifies the business of instrument set-up, operation and data analysis. This innovative input backpack, which can be detached from the recorder, provides the user with easy access to the input connections.

VAN RENESSE supplies

BD300

GENERAL SPECIFICATIONS

Instrument type	4, 6 or 8 channels
Mains power supply	115 / 230 Volt ±15%. Optional 12 or 24 Volt DC power supply
Power consumption	60, 70 or 80 VA for 4, 6 or 8 channels
Operating conditions	0°C .. 40 °C and 20% .. 80% rH; non condensing
Dimensions	444 x 390 x 280mm (W x D x H) ALL MODELS
Weight	14, 15 and 16 kg for BD300 /4, /6 and /8 channels respectively
Safety	According to IEC 1010, CSA, VDE and CE
Safety category	Class II for power supply and inputs
Disturbance	Tested according to IEC 801, 801-2, 801-3 and 801-4

PLUG – MEASURE | INPUT CHANNELS

Volt DC	0 .. 1 mV up to 0 .. 250 V Full Scale (FS) ± 0.1%
Volt AC	0 .. 1 mV up to 0 .. 250 V FS true RMS ± 0.2% (crest factor < 5)
Amps DC	0 .. 1 mA up to 0 .. 0.5 A FS ± 0.1%
Amps AC	0 .. 1 mA up to 0 .. 0.5 A FS true RMS ± 0.2% (crest factor < 5)
°C/F/K	-200° … +2000°C span for J, K, T, N, B, S, E, R and Pt-100 with 2, 3 or 4 wires
CJC	Cold junction compensation selectable per channel for thermo couples
Frequency	10 Hz – 100 kHz in steps of 1,2 and 5. (sensitivity adjustable)
Accuracy	VDC, IDC ± 0.1%, cold junction ± 0.5 °C, linearization 0.06 °C
	VAC, IAC ± 1% RMS Crest factor < 5, freq. < 10 kHz
Input resolution	20 bits
Sampling rate	Each channel 400 Hz (used for filtering and pen positioning)
Zero drift	< 0,25 μV / °C
Channel separation	2 kV (3 kV tested), no visible cross talk with freq. < 10 kHz
Input impedance	1 MW VAC, VDC and 1W for AAC, ADC
Input filter	Low pass filter selectable from 0.1 to 20 Hz, in steps of 1, 2 and 5 + main filter
Shifting	-500% to +500% (full scale or zone, manual or automatic)
Left/Right margin	Minimal full scale 10 mV, max full scale 495 V (max input 250 V)
Zone recording	0..100% adjustable per channel
Zero position	-100% to +200%

CONTROL | FUNCTIONS

Alarms	2 Input or Pen alarms per channel with adjustable hysteresis
8 event inputs	TTL inputs or contact closure, with each 43 programmable functions

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Specifications

CHART DRIVE

Paper speeds	5 mm/h… 50mm/s. or 0.2 inch/hr… 2 inch/s (forward and backward)
Dual speed	2 chart speeds 'remote' selectable, triggered by event
External control	Chart controlled by external input with TTL pulses (divider selectable)
Paper type	Z-fold paper standard
Paper feed	Manual feed; X-Y mode and via 'go to home', speed up to 250 mm/s
Paper out of sensor	paper out is indicated; chart is stopped, logging continues
XY mode	one of the input channels is directed to the chart control

SERVO SYSTEM

Paper width	250mm
Pen travel	252mm
Pen speed	1.2 m/s and 20 m/s2 acceleration
Response time	< 0.25 s. (5…95% full scale deflection (FSD)); in discrete mode temporarily < 0.1 s (> 10Hz.)
Mechanical pen	2.5mm, Pen Offset Compensation (POC) standard
Life time pen	500m typical 800m
Pens	Identical for all channels (8 different colors available)
Auto pen lift	Auto pen lift (with override) to prevent stains on paper when chart stops

PRINTER

Type	Inkjet (HP Inkjet cartridge)
Speed	80 characters/sec. unidirectional
Density	100 characters over full scale (250mm)
Position	In front of pen 1 to allow synchronous printing mode
Mode -direct	Prints information direct at the moment the command is given
-synchronous	Delays the information (like Pen Offset Compensation) to synchronise it (in X and T) with the analogue input signals
Print features	Messages, actual calues and time/date on request or interval settings, axis per channel, changes, alarms, tags and disk contents

USB

Log rate	Off / 0.01 Hz – 400 Hz in steps of 1, 2 and 5, per channel selectable logging per external chart pulse is also possible compressed
Data files	up to 16 different data files with a selectable name can be stored on USB
Setting files	16 complete recorder setting files can be stored with a free selectable name

RECORDERS & DATA ACQUISITION