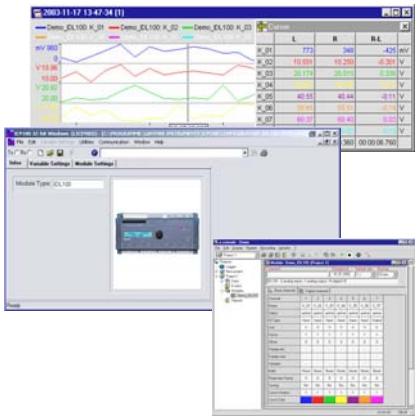
IDL 100

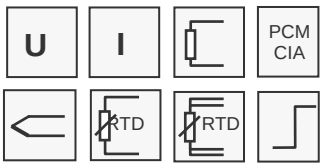
Intelligent Data Logger



The IDL 100 can directly accepts 8 analog inputs and up to 60 more from remote Sensor Modules via RS 485. Inputs can be configured to measure current, voltage, resistance / Pt100 (2, 3, and 4 wire) and thermocouple inputs. The 6 digital channels can be configured as input (status, counter, frequency) and/or outputs (status, alarm) depending on the application. All values can be stored on internal RAM or on the optional PCMCIA memory card. Logged data can be uploaded to a PC via an RS 232 interface, modem GSM, or TCP/IP. Inputs can be linearized, formatted, transmitted over a network, and used in advanced mathematical analysis.

The autocall feature enables the IDL 100 to communicate back to the operator according to predefined conditions. This ensures that the potential for data loss is minimized. Stored data can be uploaded to a PC via an RS 232 or RS 485 interface using Profibus layer 2, Modbus-RTU, or ASCII.

IDL 100



8 universal analog inputs

Voltage, current, resistance, Pt100, Pt1000, thermocouples

6 general-purpose digital I/O

Status, counter, frequency measurement

256 kB internal RAM

Data logging

PCMCIA Slot

2 MB at PCMCIA SRAM memory or 8 MB at PCMCIA Flash memory

RS 485 fieldbus interface

Profibus layer 2, Modbus-RTU, ASCII

Order Information:

Product	Article No.
IDL 100	500914
Accessories	
PCMCIA Memory Board	
Flash-Card 2 MB	517720
Flash-Card 8 MB	542213
SRAM-Card 2 MB	589931
Data Cable ICL 101	428418
Modem Cable ICL 104	467522
Configuration Software	
ICP 100	633214
Cold Junction Compensation	
ICJ 104	536317

Additional Features

- ADC resolution 16 bit
- Total signal conditioning like customized linearization, scaling, and formatting
- Autocall function (alarm notification)
- Stand alone external trip relay
- Mathematical functions and operations of the channels
- Parameter settings via push-button and 2x16 Character LC Display
- Data storing in internal RAM up to 256 kB, expandable to a total of 2 MB with PCMCIA SRAM memory or 8 MB with PCMCIA Flash memory
- Fieldbus interface RS-485 for simultaneous connection of up to 32 modules on one line or to extend the number of I/O with ISM modules
- PC software for easy configuration of the modules

Gantner Instruments Test & Measurement GmbH ■ www.gantner-instruments.com ■ office@gantner-instruments.com
Montafonerstraße 8 ■ A-6780 Schruns / Austria ■ T +43 (0) 5556 73784-410 ■ F +43 (0) 5556 73784-419
Industriestraße 12 ■ D-64297 Darmstadt / Germany ■ T +49 (0) 6151 95136-0 ■ F +49 (0) 6151 95136-26

IDL 100 Technical Data

Analog Inputs

Number of inputs	8
Accuracy	0.01 to 0.5 % depending on range
Types of measurement	
Voltage	single ended, differential
Ranges	±10 V; ±5 V; ±2.5 V; ±1.25 V; ±625 mV; ±312.5 mV; ±100 mV; ±25 mV; ±6.25 mV
Input impedance	100 MΩ
Current	
Ranges	25 mA; 12.5 mA; 6.25 mA; 3.125 mA; 1 mA; 250 µA, 62.5 µA
Input impedance	100 Ω
Resistance	2, 3 and 4 wire
Ranges	20 kΩ; 10 kΩ; 5 kΩ, 2.5 kΩ; 1.25 kΩ; 625 Ω; 312.5 Ω; 200 Ω
Measurement current	0.5 mA DC
Linearity deviation	0.01 %
Temperature influence	
on zero	12 µV / 10 K
on span	0.025 % / 10 K

Analog/Digital Conversion

Resolution	16 bit
	0.003 to 0.01 % depending on range
Sampling rate	selectable 1 sec to 1 h

Digital Input/Output

Number of I/O	6
Input	status, counter, frequency
Input voltage	max. 30 VDC
Input current	max. 1.5 mA
Switching threshold	> 3.5 V (high)
Switching threshold	< 1.0 V (low)
Input frequency	max. 2 kHz
Output	process or host controlled
Type of output	open-collector
Output current	max. 100 mA
Output voltage	max. 30 VDC
Output frequency	max. 100 Hz

Data Memory

Internal RAM	256 kByte
Expansion memory	2 Mbyte with PCMCIA SRAM Card
	8 Mbyte with PCMCIA Flash card
Storable data records	max. 65535

Communication interfaces

Standard	RS 485, RS 232
Data format	selectable 8E1, 8N1
Protocols	ASCII, Profibus layer 2 and Modbus-RTU,
Baud rates	
ASCII and ModBus-RTU	2.400 to 38.400 Baud
Profibus	9.600 to 19.200 Baud
PCMCIA-interface	for flash-memory-cards (up to 8 Mbyte)
Connectable device	max. 32
Galvanic isolation	500 V

Power Supply

Supply voltage	10 to 30 VDC
	overvoltage and overload protection
	reversible semiconductor
Power consumption	
Sampling rate 60 s	approx. 200 mW
Sampling rate 10 s	approx. 330 mW
Sampling rate 1 s	approx. 840 mW
Sampling rate 0.1 s	approx. 1100 mW
Protection	100 mA fuse integrated in device front

Mechanical

Material	Aluminium and ABS
Dimensions (W x H x D)	189 x 90 x 83 mm (7.48 x 3.54 x 3.27 in)
Weight	742 g (1.64 lb)
Protective system	IP20
Mounting	DIN EN-Rail mounting
Connection	plug-in screw terminals
	max. 1.5 mm^2

Environmental

Operating temperature	-20 °C to +60 °C
Storing temperature	-30 °C to +85 °C
Humidity	5 % to 95 % at 50 °C
	non condensing

Electromagnetic Compatibility (EMC)

Electro static discharge	level 2
(ESD)	acc. IEC 801-2: 4 kV
Radiated electromagnetic	level 3
fields	acc. IEC 801-3: 10 V/m
Electrical fast transients	level 3
	acc. IEC 801-3: 2 kV / 1 kV
Radiated RFI/EMI	level B
	acc. VDE 0871-1/CISPR 11

Warm Up Time

All declarations are valid after a warm up time of 45 minutes.

Valid from October 2006. Specification subject to change without notice.
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