

# DIP506/DGN85J

ARDETEM

SFERE



The DIP 506/DGN85J is a high accuracy **programmable panel meter** for gauge bridges, **IP 65** in front face. It is equipped with a display of five red 14 mm high digits, whose brightness suits applications in industrial control rooms perfectly. It allows display, control and transmission of data from all types of strain gauges or pressure sensors.

- ▶ Standard characteristics
- 4 bidirectionnal voltage calibers:  
± 10mV, ±20mV, ±50mV, ±100mV
- Accuracy: 0.05% of measure range at 25°C
- Bridge excitation in 6 or 4 wires  
Programmable voltages 5V ±0.1% or 10V ± 0.1%, 120mA max.
- 50 Acquisitions per second (fast version)
- Automatic input setting
- Programming of the functions associated with the keys
- 3 Types of tares (measured, entered, calculated)

▶ **Combinable with various option types:**  
(to be specified on order)

**Isolated analog output:**

Active or passive current output, or voltage output. Programmable scale ratio with enlarging effect. Return value in case of sensor rupture and/or self-diagnosis error

**Relay output:** 2 or 4 relays:

mode setpoint or mode window. Recording of the alarms. Time delay and hysteresis adjustable on each setpoint. Alarm messages

**Isolated digital output:**

RS 485 2 wires, protocole MODBUS-JBUS

**LOGIC Input:** 2 isolated Logic inputs with programmable functions.

Display hold, moving of the decimal point, tare, min. and max. reset

**Bargraph display:** (16 leds display)

Allows fast evaluation of the measured value variations. Programmable scale factor.

## External view

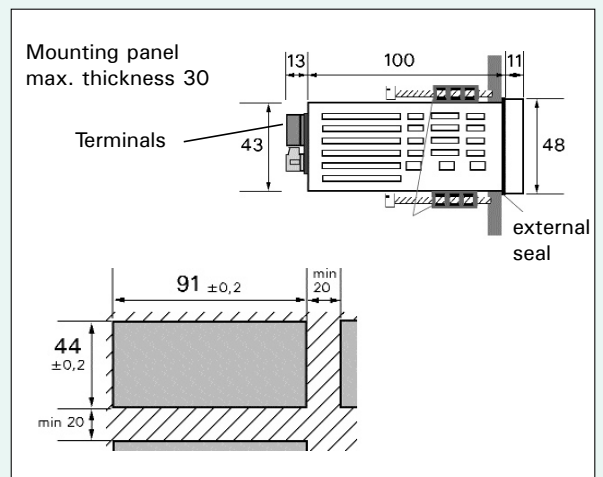
Easy programming accessible on front face with a 4-key keyboard.

- **Display:**  
Electroluminescent red, 4 alarm messages  
-10.000/+100.000 points (14 mm)
- **Case:** Self-extinguishing case in black UL 94 V0 ABS.
- **Connections** removable connectors on rear side for screwed connections (2.5mm<sup>2</sup>, flexible or rigid)
- **Protection:** Front face: IP 65 Case/terminals: IP20
- **Standards:** Complies with standards EN 50081-2 on emissions and EN 50082-2; on immunity (in industrial environment)  
EN 61000-4-2 level 3, EN 61000-4-3 level 3,  
EN 61000-4-4 level 4, EN 61000-4-6 level 3

CE Marking

## Dimensions

Case: 96 x 48 x 124 mm (with terminals)



Mounting: on panel ; cut out 44 x 91 mm

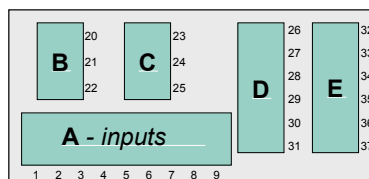


# Technical features

Input type	
DIP 506 / DGN85 J	<b>DIP 506 / DGN85 J</b>
	<b>Bidirectionnal</b> $\pm 10\text{mV}$ , $\pm 20\text{mV}$ , $\pm 50\text{mV}$ , $\pm 100\text{mV}$ , <ul style="list-style-type: none"> <li>Accuracy 0.05 % of full scale at +25 °C</li> <li>Thermal drift &lt; 200 ppm/°C</li> <li>Measurable scale overstepping from -5% to +5%</li> <li>Programmable scale factor</li> <li>Enlarging effect</li> <li>Special linearisation on 20 points</li> <li>Bridge excitation voltage: Programmable 5V <math>\pm 0.1\%</math> or 10V <math>\pm 0.1\%</math>, 120mA max. Line resistance: 20 <math>\Omega</math> max.</li> </ul>

## ◆ Locations and combinations of options

All options can be combined, except in one case:  
options: LOGIC, 4 relays and the analog output.



**Location of the terminals**  
(view from case rear side)

### Locations

- B:** option N (digital output)  
**C:** option A1, A2, A3 (analog output)  
 or option LOGIC  
**D:** option R (2 relays only)  
**E:** option LOGIC or **E+D** : option R4 (2+2 relay)

**Note:** the location E is used in priority for the option LOGIC input

## ◆ Power supply

**2 Versions: High Voltage or Low Voltage**  
(to be specified on order)

High Voltage:	90...270 V <sub>AC</sub>	50/60/400 Hz
and	88 ...350 V <sub>DC</sub>	
Low Voltage:	20...53 V <sub>AC</sub>	50/60/400 Hz
and	20...75 V <sub>DC</sub>	

**Power draw:** 6 W max. 9 VA max.

Types of options	
option A1, A2, A3	<b>Analog output:</b> 3 types on choice <b>A1: Active current output</b> 0/4-20mA <b>A2: Passive current output</b> 0/4-20mA (V <sub>max</sub> =30Vdc) <b>A3: Voltage output</b> 0-10V <ul style="list-style-type: none"> <li>Accuracy 0.1 % in relation to display (at +25°C)</li> <li>Residual ripple <math>\leq 0.2\%</math></li> <li>Admissible load <math>0\Omega &lt; R_c &lt; 500\Omega</math> (current) <math>R_c &gt; 2\text{k}\Omega</math> (voltage)</li> <li>Programmable scale ratio with enlarging effect</li> <li>Response time: 40 ms</li> </ul>
	<b>Relay output:</b> 2 types on choice <b>R: 2 independently programmable setpoint relays</b> <b>R4: 4 independently programmable setpoint relays</b> <ul style="list-style-type: none"> <li>Hysteresis independently programmable from 0 to 100% of the setpoint in the display unit</li> <li>Time delay independently programmable from 0 to 25 s, in 0.1s increases</li> <li>NO-NC contact 8 A - 250 V on resistive load</li> </ul>
option R or R4	
option N	<b>Digital data link</b> <b>N: Data link RS485</b> (2 wire) <ul style="list-style-type: none"> <li>Protocoles MODBUS-JBUS format of data: integer / double integer</li> <li>Slave number programmable from 1 to 255 with a speed from 1200 to 19200 Bauds</li> </ul>
option tor	<b>LOGIC inputs</b> <b>tor: 2 isolated LOGIC inputs</b> <ul style="list-style-type: none"> <li>Display hold,</li> <li>Decimal point moving,</li> <li>Function tare,</li> <li>Min. and max. reset</li> </ul>
option B	<b>Bargraph display</b> <b>B: display 16 leds</b> <ul style="list-style-type: none"> <li>Allows fast evaluation of the measured value variations.</li> </ul>

## ◆ Features

- Number of acquisitions per second:  
DIP506/DGN85J : 10  
DIP506S/DGN85JS : 50 (fast version)
- Input impedance  $\geq 100\text{ M}\Omega$
- Rejection rate: Common mode: 120 dB
- Zero drift compensation
- Insulation: Input / Power supply: 2.5 kV eff. 50Hz-1min  
Input / Output: 1 kV eff. 50Hz-1min

## ◆ Programmable digital filter

Stabilises the display in case of unsteady input.  
The filter coefficient and action range are programmable.

## ◆ Tare

- 3 types of tares, saved in case of power supply cut:  
measured tare/entered tare/calculated tare (with entering of the net weight).

## ◆ Self-diagnosis:

- Permanently watches any component drifts that may occur.  
Serves to warn the user before they provoke false measures.
- Self-diagnosis error detection programmable on the 4 relays.
- Return value programmable on the analog output in case of self-diagnosis error.

## ◆ Input scale overstepping

Visualised on the display by a blinking measure.

## ◆ Linearisation

- Linear input
- Special linearisation in 20 points (in X and in Y)

## ◆ Automatic setting

Automatic setting of all input points.

## ◆ Brightness setting

Independent adjusting of digits and leds/bargraph brightness  
Programmable: 4 levels  
According to the instrument location (outdoor, control room...)

## ◆ Programmable quick functions

- Programming of the functions associated with the keys: tare, reading of the min. and max., quick adjusting of setpoints, input electrical value visualising, etc...

## ◆ Function simulation

- Possible simulation of the analog output (generator mode).
- Possible simulation of the measure: allows validating the configuration of the analog and the relays outputs in the installation.

## ◆ Access code

An access code adjustable from 0000 to 9999 serves to prevent unauthorized programming of the meter and its set-points, and to lock the access to some functions.  
The code is 0000 on factory exit.

x	x	x	x	
				0 to 5 Access to the automatic setting
				6 to 9 No access
				0 to 5 Access to the measure and output simulations
				6 to 9 No access
				0 to 5 Access to the function "tare"
				6 to 9 No access
				0 to 5 Access to the quick entering of alarm setpoints
				6 to 9 No access

## ◆ Environment

- IP65 front face protection.
- Operating temperature: -5 to 55°C.
- Storage temperature: -30°C to +80°C.
- Relative dampness: 80% (annual average).
- Connecting by removable screwed terminals  
(for 2.5 mm<sup>2</sup> cable, flexible or rigid).
- Case in self-extinguishing black UL 94 VO ABS.
- Weight with / without output board: 250g / 150g.

# Coding

## ◆ Types:

**ARDETEM reference: DIP 506 /**  
**DIP 506 S** (fast version: 50 measures per second)  
**SFERE reference: DGN85 J /**  
**DGN85 JS** (fast version: 50 measures per second)

## ◆ Output options:

**A** : Analog (A1, A2 or A3: specify)  
**R** : 2 relays  
**R4** : 4 relays  
**N** : Data link (RS 485 2 wires)  
**tor** : 2 LOGIC inputs  
**B** : Bargraph display

### Simultaneously combinable options:

A / R / N / B / tor  
A / R4 / N / B  
R4 / N / B / tor

## ◆ Type of power supply

**2:** High Voltage  
**3:** Low Voltage

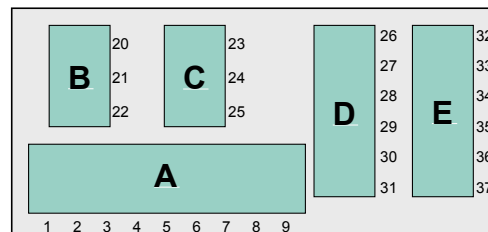
### Ordering example:

For a meter with an analog output (20 mA passive) and 2 relays, supplied in 230 VAC, request the reference:  
**DIP506/DGN85J A2 R 2** (passive current output).

For a fast version meter with an analog output (20 mA, active), 4 relays, a digital output and a bargraph display, supplied in 230 VAC, request the reference:  
**DIP506/DGN85J S A1 R4 N B 2** (active current output)

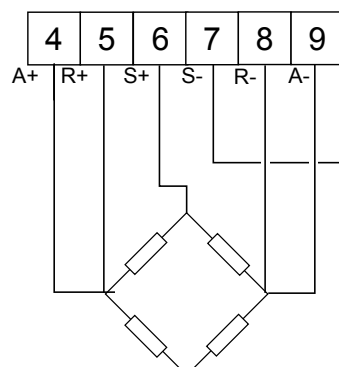
*This appliance is designed for industrial applications. It has to be installed in an electrical cabinet, or equivalent.*

# Wiring



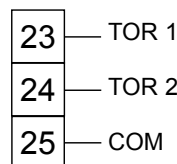
**Location of the terminals**  
(view of case rear side)

## INPUTS



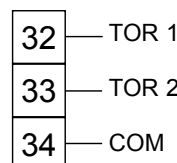
For a connection in 4 wires, connect terminals 4 to terminal 5 and terminal 8 to terminal 9

## LOGIC INPUTS (options)



2 channels

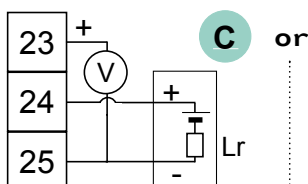
or



2 channels

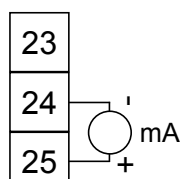
## OUTPUTS (options)

### VOLTAGE PASSIVE CURRENT



0-4/20mA passive external source 30 V max.

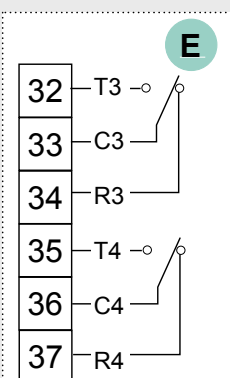
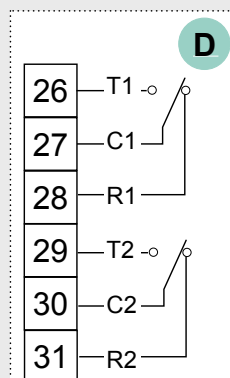
### ACTIVE CURRENT



0-4/20mA active

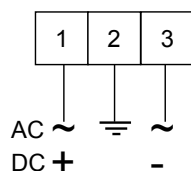
## 2 RELAYS: D OR E

## 4 RELAY: D AND E

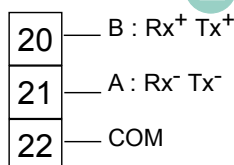


T: ON  
C: Common  
R: OFF

## SUPPLY



## DIGITAL



Data link RS 485

your representative



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