DIGITAL PANEL METER - AC INPUT

DIP404/DGN75AC

ARDETEM **SFERE**

*The DIP404/DGN75AC is a **high accuracy digital panel meter**,with **IP 65** front face protection.*
Each instrument is equipped with a 14mm high red digit display, whose brightness fits applications in industrial control rooms perfectly.
They allow display, control and transmission of data from alternating voltage, alternating current and of frequencies from alternating signals.

- **Display:**

3 magnitudes can be programmed for display accessible simply by pressing one key.

- **Combinable with various option types:**

(to be specified on the order)

Isolated analog output:
Output active or passive current, or voltage.
Programmable scale ratios, with enlarging effect.
Return value in case of error self-diagnosis.

Relay output: 2 or 4 relays:
- mode setpoint or window.
Recording of the alarms.
Time delay and hysteresis adjustable on each set-point.
Alarm messages

Isolated digital output:
RS 485 2 wire, protocole MODBUS-JBUS.

LOGIC input: 2 isolated LOGIC inputs, with programmable functions
Display hold, min. and max. zero reset.

Bargraph display: (16 leds display)
Enables quick evaluation of the measured value variations.
Programmable scale factor.

External view

Easy programming from the front face via a 4-key keyboard.

- **Display**: ±10 000 points (14 mm)
Electroluminescent red, 4 alarm messages

-2 000 / +10 000 points (20 mm) (consult with us)

- **Housing**: Self-extinguishing case of black UL 94 V0 ABS.

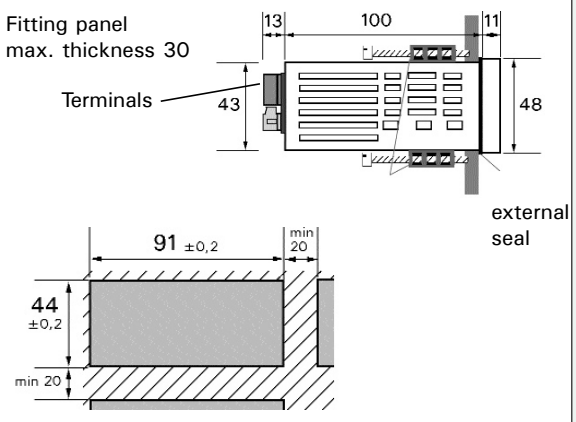
- **Connectings** plug-off connectors on the rear for screwed con nections (2.5mm², flexible or rigid)

- **Protection**: Front face: IP 65 Case/terminals: IP20

- **Standards** Complies with standards EN 50081-2 on emission and EN 50082-2; 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 (including terminals)



Mounting: on panel, cut out 44 x 91 mm

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Technical features

Input types

DIP 404 / DGN75 AC

AC current, voltage network frequency

- 2 programmable voltage calibers 150V and 500V
  Un = 150 VAC and 500 VAC
  overstepping 1,2 Un
- 2 programmable current calibers 1A and 5A
  In = 1,2A and 6A
  overstepping 1,2 In
  automatic calibers at 0-5A or 0-500V possible
- Voltage overload
  permanent: 750 V
  during 10s: 1000 V
- Current overload
  permanent: 10A
  during 10s: 50A
- Frequency: 45 Hz to 65 Hz
- Accuracy rating:
  0.2 % voltage / current (at 25°C)
- Measure cycle
  55 ms
- Display:
  3 magnitudes can be programmed for display accessible simply by pressing one key.

Types of options

option A1, A2, A3

Analog output: 3 types on choice

A1: Active current output 0/4-20mA
A2: Passive current output 0/4-20mA (Vmax.=30Vdc)
A3: Voltage output 0-10V

- Accuracy 0.1 % in relation to the display (at +25°C)
- Residual drift ≤ 0.2%
- Admissible load 0Ω < Rc < 500 Ω (current)
  Rc > 2 kΩ (voltage)
- Programmable scale ratio, with enlarging effect
- Response time: 40 ms

option R ou R4

Relay output: 2 types on choice

R: 2 independently programmable relays
R4: 4 independently programmable relays

Setpoint relays:

- Hysteresis programmable independently from 0 to 100% of setpoint in the display unit
- Time delay programmable independently from 0 to 25 s in 0.1s. increases
- NO-NC contact 8 A - 250 V on resistive load

option N

Digital output

N: Data link RS485 (2 wire)

- Protocoles **MODBUS-JBUS** in the data format: integer / double integer
- Slave number programmable from 1 to 255 with a speed rate from 1200 to 19200 Bauds

option tor

LOGIC inputs

tor: 2 insulated LOGIC inputs

- Display blocking,
- min. and max. zero reset

option B

Bargraph display

B: 16-Led display

- Enables fast evaluation of the measured value variations
- Possible programming of 3 bargraphs (1 for each displayed parameter)

♦ Power supply

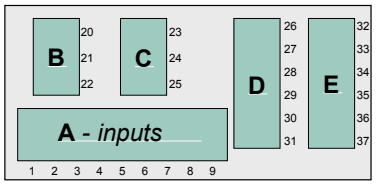
2 Versions: High or Low Voltage
(to be specified on order)

High Voltage:	90...270 VAC	50/60/400 Hz
and	88 ...350 VDC	
Low Voltage:	20...53 VAC	50/60/400 Hz
and	20...75 VDC	

Power draw: 5 W max. 8 VA max.

♦ Locations and combinations of options

All options can be combined, except in one case:
options: logic input, 4 relays, with the analog output.



Location of the terminals
(view of case rear side)

Locations

B: option N (digital output)
C: option A1, A2, A3 (analog output) or logic option
D: option R (2 relays only)
E: option logic input or **E+D**: option R4 (2+2 relays)
Note : *location E is used in priority for the option logic input*

♦ Features

- Input impedance ≥ 1 MΩ for voltage input
  < 0.2 VA for current input
- Isolation: Input / Power supply : 2.5 kV eff. 50Hz-1min
  Input / Ouput : 2.5 kV eff. 50Hz-1min
- Thermal drift < 200 ppm /°C

♦ Programmable integration indice

Enables display stabilising in case of unsteady input.

♦ Self-diagnosis:

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

♦ Input caliber overstepping

Visualised on the display by an error self-diagnosis.

♦ Brightness setting

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

♦ Quick reading on the display

- Of the setpoint values.
- Of the min. and max. values.

♦ Simulation function

- Simulation possible via the analog output.
- Simulation of measure possible : enables validating the configuration of the analog output and the relay outputs in the system.

♦ Access code

Access code adjustable from 0000 to 9999, serves to prevent unauthorised programming of the meter, of the setpoints 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 setting of voltage/current cut-offs
	6 to 9	No access
↓		
	0 to 5	Acccess to the measure and output simulations
	6 to 9	No access
↓		
0 to 5		Access to the quick entering of alarm setpoints
6 to 9		No access

♦ Environment

- Front face protection IP 65.
- Operating temperature: -5 to 55°C.
- Storage temperature: -30°C to +80°C.
- Relative dampness: 80% annual average
- Connection by plug-off screwed connectors (for 2.5 mm² cable, flexible or rigid).
- Black ABS self-extinguishing case UL 94 VO.
- Weight with/without output board: 250g / 150g.

coding

♦ Types:

ARDETEM reference: DIP404
SFERE reference: DGN75AC

Display type:

±10 000 points (14 mm)

♦ **Output options**:
A : Analog (A1, A2 or A3: specify)
R : 2 relays
R4 : 4 relays
N : Digital link (RS 485 2 wire)
tor : 2 LOGIC inputs
B : Bargraph display

Simultaneously combinable options:
A / R / N / B / tor
A / R4 / N / B
R4 / N / B / tor

♦ **Power supply type**
2: High Voltage
3: Low Voltage

Ordering example:

For a 10000 point meter with an analog output and 2 relays with a 230 VAC power supply, request the reference: **DIP404/DGN75AC A2R 2** (passive current output).

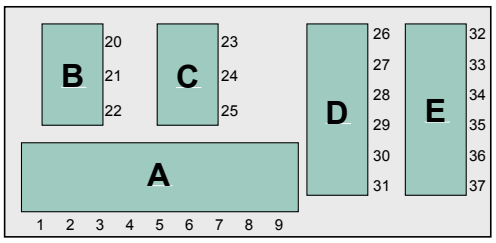
This appliance is designed for industrial applications. It has to be mounted in an electrical cabinet, or equivalent.

Connections

Wiring recommendations

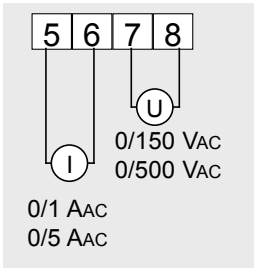
The input network may carry significant disturbances, and they may disturb the complete chain. In order to avoid this, the disturbance immunity can be made significantly better by respecting the following rules:

- do not connect close to each other: the input network and the power supply wires,
- do not connect close to each other: the input network and all the output wires,
- use for all outputs shielded cables connected to the ground on both extremities.

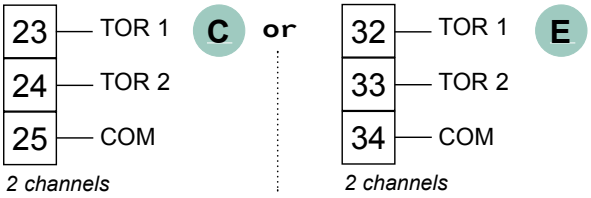


Location of the terminals
(view of case rear face)

INPUTS

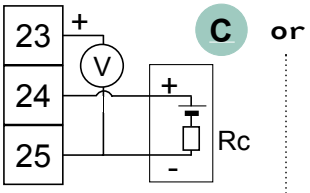


LOGIC INPUTS (options)



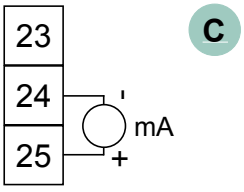
OUTPUTS (options)

VOLTAGE
PASSIVE CURRENT



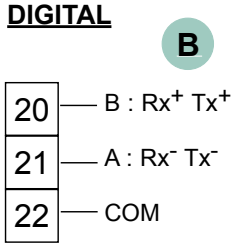
0-4/20mA passive
external source 30 V max.

ACTIVE CURRENT

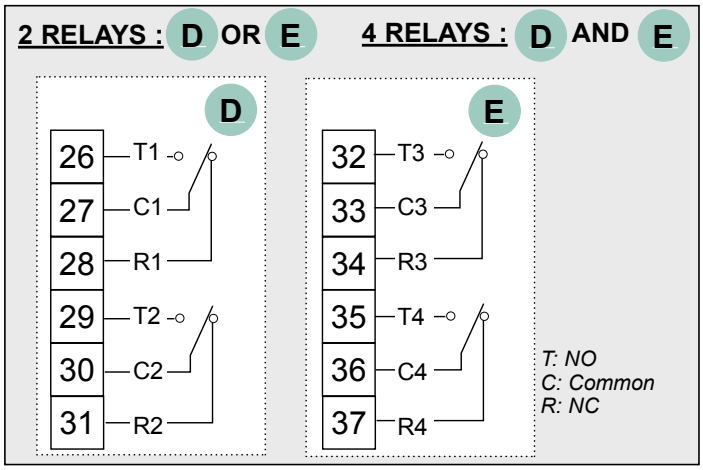


0-4/20mA active

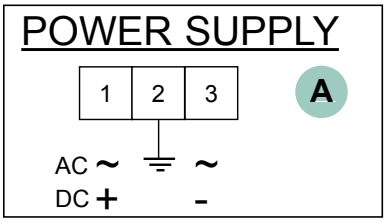
DIGITAL



RS 485 connection



POWER SUPPLY



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