

DIP603/DGN95F

ARDETEM

SFERE



The DIP603/DGN95F is a high accuracy **programmable panel meter**, with **IP 65** front face protection.

The totalling function allows converting of any instant magnitude into a cumulated magnitude.

Thus, connected to the output of a measure converter, the DIP603/DGN95F will show the instant measure and the cumulated measure according to a programmable time basis.

- Integrating function with programmable time basis and conversion factor.
- Totaller saved in case of power supply cut.

Input:

- Direct current or voltage
Bidirectionnal $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 300\text{V}$, $\pm 20\text{mA}$.
- Linear with or without square root extraction and special curve in 20 points (programming in X and in Y)

Display:

$\pm 100\,000$ pts for the instant value and on 6 digits for the integrator.

Bargraph: (display 16 leds)

Allows fast evaluation of the instant or cumulated values, independently from the display.

► Types of combinable options: (to be specified on order)

Isolated digital output:

RS 485 2 wire, protocole MODBUS-JBUS.

Isolated analog output:

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

Relay output: 2 or 4 relays:

Programmable as pulse output with adjustable weight and duration, or as alarm with mode setpoint or mode window programmable on one of the 2 measured values (instant or cumulated) with:

- Recording of the alarms.
- Time delay and hysteresis adjustable on each setpoint.
- Messages associated with the alarms.

LOGIC input: 2 isolated logic inputs with programmable functions.

Totaller zero reset, integration stop and start, changing of display value type. Display hold, function tare, min. max. zero reset

External view

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

- **Display:** Electroluminescent red
Instant value on 5 digits
Cumulated value on 6 + 3 digits
Bargraph 16 leds for fast visulisation of one of the 2 values
- **Case:** Self-extinguishing case of black UL 94 V0 ABS.

- **Connectors** plug-off connectors on rear face for screwed connections (2.5mm^2 , flexible or rigid)
- **Protection:** Front face: IP 65 Case / terminals: IP20
- **Standards:** Complies with standards EN 50081-2 on emissions & 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



Technical features

Input type	
DIP603/DGN95F	Direct current or voltage Bidirectional $\pm 100\text{mV}$, $\pm 1\text{V}$, $\pm 10\text{V}$, $\pm 300\text{V}$, $\pm 20\text{mA}$. - Accuracy 0.05 % of full scale at +25 °C. - Thermal drift < 150 ppm/°C. - Measurable scale overstepping from -5% to +5%. - Programmable scale factor. - Enlarging effect - Square root extraction. - Special linearisation on 20 points. - Supply for 2 or 3 wire sensor (current input) 26 Vdc ($\pm 15\%$) / 100 mA protected from short-circuits.

Types of options	
A1 or A2 or A3	Analog output: 3 types on choice (specify on order) A1: Active current output 0/4-20mA A2: Passive current output 0/4-20mA ($V_{\text{max}}=30\text{Vdc}$) A3: Voltage output 0-10V - Accuracy 0.1 % in relation to display (at +25°C) - Residual drift $\leq 0.2\%$ - Admissible load $0\Omega < L_r < 500\Omega$ (current) $L_r > 2\text{ k}\Omega$ (voltage) - Programmable scale ratio with enlarging effect on the instant or cumulated value - Response time: 40 ms
option R or R4	Relay output: 2 types on choice R: 2 relays R4: 4 relays - NO-NC contact 8A - 250V on resistive load - Independently programmable Mode pulses: duration 100, 200, or 400 ms; pulse weight adjustable from 1 to 10 000 Mode alarm: setpoint or window on the instant or cumulated value - Hysteresis adjustable in the display unit - Time delay adjustable from 0 to 25 sec in 0.1s. increases
option N	Digital output N: Digital data link RS485 (2 wire) - Protocoles MODBUS-JBUS format of data: integer / double integer - Slave number programmable from 1 to 255 with a speed of 1200 to 19200 Bauds
option tor	LOGIC inputs tor: 2 isolated LOGIC inputs - Display hold, - Totaller zero reset / Integration stop and start - Function tare - min. and Max. zero reset - Change of display

Coding

ARDETEM reference: DIP603

SFERE reference: DGN95F

Output options:

- A** : Analog (A1, A2 or A3: specify)
R : 2 relays
R4 : 4 relays
N : Digital data link (RS 485 2 wire)
tor : 2 LOGIC inputs

Simultaneously combinable options:

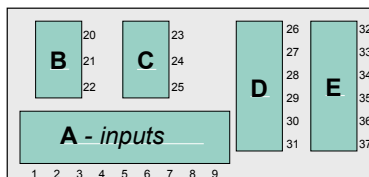
A / R / N / tor
 A / R4 / N
 R4 / N / tor

Type of supply

- 2:** High Voltage
3: Low Voltage

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 of 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 relays)

Auxiliary power supply

2 Versions: High Voltage 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 21...75 VDC

Power draw: 7 W max. 10 VA max.

◆ Features

- Sampling time: 100ms
- Input impedance $\geq 1\text{ M}\Omega$ for the voltage input
Drop 0.9 V max. for the current input
- Rejection rate:
Mode common: 130 dB Mode series: 70 dB 50/60 Hz
- Zero drift compensation and self-calibration
- Isolation: Input / Power supply: 2.5 kV eff. 50Hz-1min
Input / Output: 2.5 kV eff. 50Hz-1min

◆ Measure filtering

Programmable integration indice, stabilises the display in case of unsteady input.

◆ Detection of the sensor or line break

- Can be detected on mV and current (4-20 mA) inputs
- Return value programmable on the analog output in case of sensor break
- Sensor break detection programmable on the 4 relays
- The sensor break detection can be disconnected (mV).

◆ Self-diagnosis:

- Permanently watches any drifts that may surge on components. 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 self-diagnosis error.

◆ Linearisation

- Linear input
- Square root extraction
- Special linearisation on 20 points (in X and in Y)
- Cut-off programmable

◆ Process calibration (slope and offset)

Programmable on all inputs

◆ Display

- Instant value on 5 digits (14 mm), $\pm 100\,000$ points
- Cumulated value on 6 digits (14 mm), from -100 000 to +1 000 000 points associated with an overstepping counter (± 1000), i.e. a maximum counting of -100 000 000 to +1 000 000 000 points
- Led indicating the type of value on display

◆ Bargraph

- Programmable
- Fast visualising of the instant and cumulated value, independently from the display, or visualising of the various functions eg.: oversteppings, LOGIC, RS, etc...

◆ Brightness setting

Programmable: 4 levels

According to the location of the instrument (outdoor, control room...)

◆ Totalling

- Totalling on a 6-digit counter associated with a second counter of 3 digits, to allow totalling from -99 999 999 to 999 999 999.
- Counters are saved in case of supply cut
- Programming of the integration time (sec/min/hour) and of a conversion rate (from 0.0001 to 999 999)
- Input errors can be recorded or not (electrical oversteppings, sensor break)

◆ Fast reading on the display

- Of the value of the setpoints.
- Of the input signal electrical value.
- Of the min. and Max. values.
- Of the oversteppings counter.

◆ Function simulation

- The analog output can be simulated (mode simulation).
- The instant or cumulated measure can also be simulated, in order to validate the configuration of the analog output and the relay outputs in the installation.

◆ Access code

An access code adjustable from 00000 to 59999 serves to protect the meter and its setpoints from unauthorized programming, and to lock access to some functions. The factory code is 00000.

x x x x x		
...	0 to 5	Access to the process calibration
...	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 fast entering of alarm setpoints
...	6 to 9	No access
0 to 2		Access to the totaller zero reset
3 to 5		No access

◆ Environment

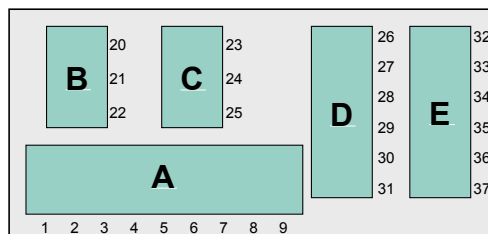
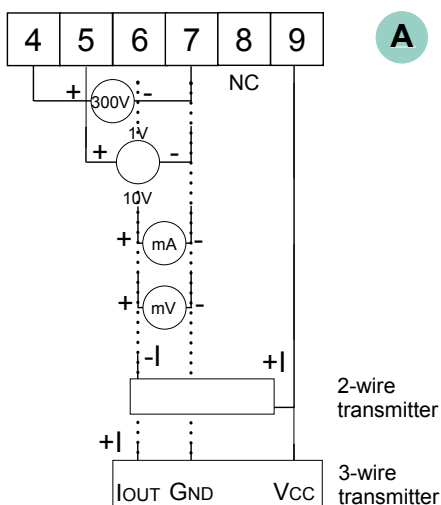
- Front face protection IP 65.
- Operating temperature: -5 to 55°C.
- Storage temperature: -30°C to +80°C.
- Relative dampness: 80% annual average.
- Connection by plug-off screwed terminals (for 2.5 mm² wire, flexible or rigid).
- Case of self-extinguishing black UL 94 VO ABS.
- Weight with / without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

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

Wiring

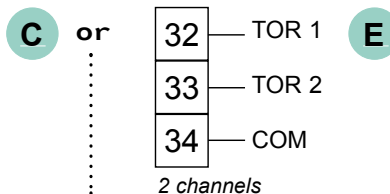
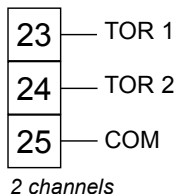
INPUTS

PROCESS



Location of the terminals
(view of case rear side)

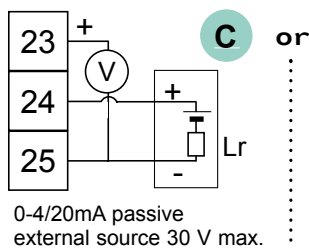
LOGIC INPUTS (options)



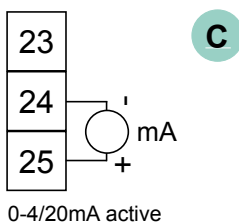
OUTPUTS (options)

VOLTAGE

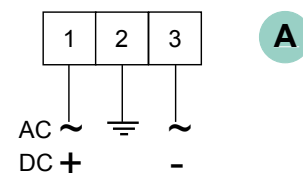
PASSIVE CURRENT



ACTIVE CURRENT

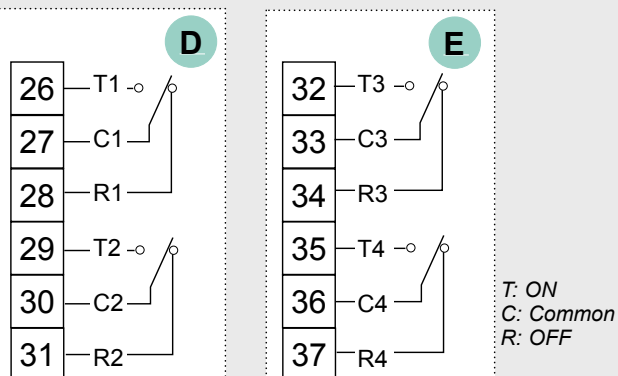


POWER SUPPLY

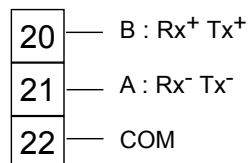


2 RELAYS: D OR E

4 RELAYS: D AND E



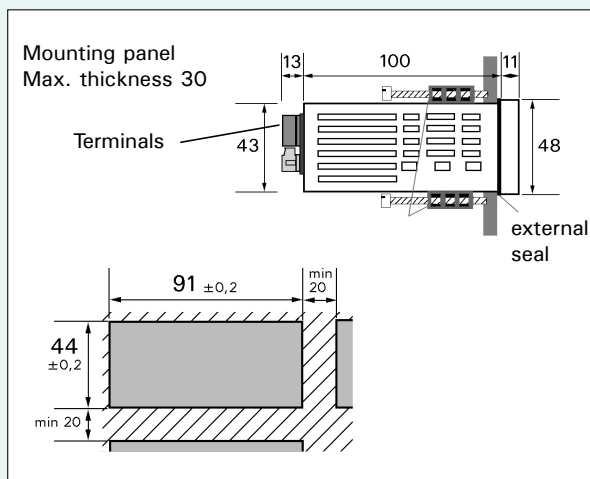
DIGITAL



Data link RS 485

Dimensions

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



Mounting: on panel ; cut out 44 x 91 mm

