ENERDIS®
CHAUVIN ARNOUX GROUP

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0.1 to 0.5 % accuracy

Communicating

Up to 4 analogue outputs

The reference for measurement transducers

Transducers

ANALOGUE

T82

Measurement of AC and DC quantities
1 analogue output
Accuracy class 0.5 %

Configured in factory

- Delivered ready to use with your network specifications
- Wide choice of measurable quantities: AC/DC electrical quantities and physical quantities
- Pulse output for metering
- Transfer curves: linear, 2 slopes or quadratic (depending on model)
- 3 possibilities for mounting: fixed casing, plug-in casing with special base or rack module

TSPU / TSPI

Self-powered
1 analogue output
Accuracy class 0.2 %

- Designed for measuring an AC voltage (TSPU) or an AC current (TSPI)
- Large choice of input calibres
- No external power supply required

specifications

T82

- **Quantities measured:** Vac, Uac, Iac, P, Q, F, FP, φ (U'-U"), Δ (U'-U"), Vdc, Idc, ΣVdc, ΣIdc, T°, Ω
- **Accuracy:** Class 0.5
- **Inputs:**
  - AC voltage: 57.7 to 410 V (fixed calibres)
  - AC current: 0.5 A to 10 A (fixed calibres)
  - DC voltage: 5 mV to 1.500 V (fixed calibres)
  - DC current: 5 µA to 100 mA (fixed calibres)
  - Tachometric sensor: 50 to 440 Vrms / 30 Hz to 10 kHz
  - T° sensor: Pt100 or thermocouple (K, T, J, E, R, S, B)
  - Resistance: 100 Ω to 5 kΩ
- **Analogue output calibres:** 0-1 mA, 0-2.5 mA, 0-5 mA, 0-10 mA, 0-20 mA, 4-20 mA, 0-1 V, 0-5 V, 0-10 V
- **Auxiliary source (wide choice available):** 57.7 V to 440 V (AC) or 24 V to 220 V (DC)
- **Operating frequency:** 50, 60 or 400 Hz

TSPU

- **Quantities measured:** Vac, Uac
- **Accuracy:** Class 0.2
- **Inputs:** AC voltage: 57.7 V to 400 V (fixed calibres)
- **Analogue output calibres:** 0-10 mA, 0-20 mA, 0-5 V, 0-10 V
- **Operating frequency:** 45 to 65 Hz

TSPI

- **Quantity measured:** Iac
- **Accuracy:** Class 0.2
- **Inputs:** AC current: 1 A or 5 A (fixed calibres)
- **Analogue output calibres:** 0-10 mA, 0-20 mA
- **Operating frequency:** 45 to 65 Hz

The choice is yours

DIGITAL

TRIAD 2

Programmable
1 to 4 analogue outputs
Adjustable accuracy class from 0.1 %

Configurable in factory

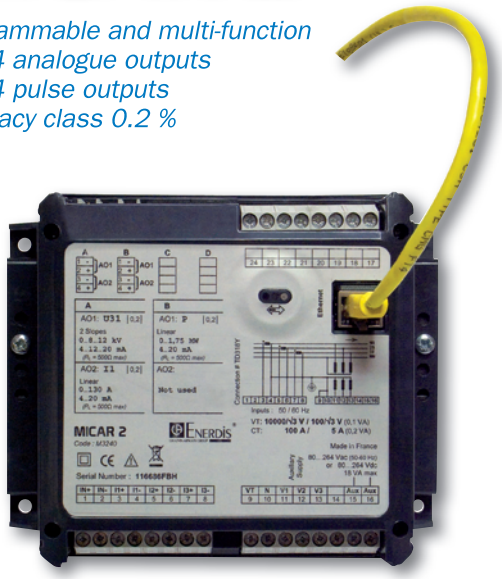
- Delivered ready to use with your network specifications

Configurable using TRIADJUST 2

- Remotely via Ethernet or RS485 and locally via optical head
- Class 0.1 / 0.15 / 0.2 / 0.5 / 1 (adjustable)
- Transfer curves: linear; 2 slopes or quadratic
- Response time: adjustable from 50 ms

MICAR 2

Programmable and multi-function
2 or 4 analogue outputs
2 or 4 pulse outputs
Accuracy class 0.2 %



Configurable in factory

- Delivered ready to use with your network specifications

Configurable using E.view+

- Remotely via Ethernet or RS485 and locally via optical head
- Pulse outputs for metering or alarm relays
- Transfer curves: linear; 2 slopes or quadratic
- Response time: 350 ms

Triad 2

- **Quantities measured:** Vac, Uac, Iac, P, Q, S, F, FP, φ, Cos φ, Tan φ, φU, φV
- **Accuracy:** Class 0.1 - 0.15 - 0.2 - 0.5 - 1 (adjustable)
- **Inputs:** – AC voltage: up to 480 V
  – AC current: up to 10 A
- **Analogue output calibres:** ±1 mA, ±5 mA, ±20 mA, ±1 V, ±10 V
- **Auxiliary source (large dynamic range):** 80 - 265 V AC/DC or 19 - 58 VDC
- **Operating frequency:** 50 or 60 Hz
- **Communication protocols:**
  – ModBus in RTU mode (optical head)
  – ModBus/JBus in RTU mode (RS485)
  – ModBus/TCP in RTU mode (Ethernet)

Micar 2

- **Quantities measured:** Vac, Uac, Iac, P, Q, S, F, FP, Cos φ, kWh, kVArh, kVAh
- **Accuracy:** Class 0.2
- **Inputs:** – AC voltage: up to 552 V
  – AC current: up to 6.5 A
- **Analogue output calibres:** ± 20 mA
- **Auxiliary source (large dynamic range):** 80 - 264 V AC/DC or 19 - 57 VDC
- **Operating frequency:** 50 or 60 Hz
- **Communication protocols:**
  – ModBus in RTU mode (optical head)
  – ModBus/JBus in RTU mode (RS485)
  – ModBus/TCP in RTU mode (Ethernet)

Reference standards: IEC 60688 (electrical measuring transducers) – IEC 61010-1 (insulation and dielectric strength) – IEC 61326-1 (EMC)

Choose and configure your transducers

	T82	TSPU	TSPI	TRIAD 2	MICAR 2
MEASUREMENTS					
Iac	●		●	●	●
Vac	●	●		●	●
Uac	●	●		●	●
Vground					●
Ineutral					●
Idc	●				
Vdc	●				
∑ Idc	●				
∑ Vdc	●				
P	●			●	●
Q	●			●	●
S				●	●
F	●			●	●
FP	●			●	●
Cos φ				●	●
Tan φ				●	
φ				●	
φ (U' – U")	●			●	
Δ (U' – U")	●				
T°	●				
Ω	●				
kWh					●
kVARh					●
kVAh					●
OPTIONS					
Number of analogue outputs	1	1	1	4	4
RS485				●	●
Ethernet				●	●
Pulse output					●
Alarm output					●
Programmable				●	●
Plug-in version	●				
RACK version	●				
Self-powered	●	●	●	(1)	(1)

(1) By relooping of the voltage input

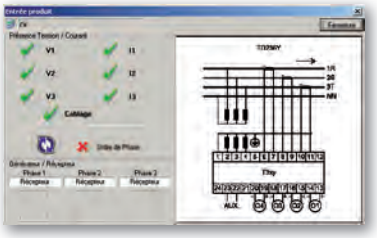
For quick configuration or modification of all the TRIAD 2 transducers' parameters, locally via the optical head or remotely via Ethernet or RS485.

TRIADJUST 2 for TRIAD 2

Available for download free of charge or delivered in a kit comprising: 1 CD – 1 optical/USB cable – 1 set of labels – 1 carrying case

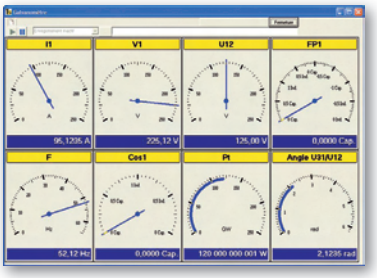
Configuration

– Inputs / outputs
– Communication
– Connection diagram
– Response time
– Configuration parameters: current/voltage transformer ratios, transfer function



Diagnosis

– Voltage inputs
– Current inputs
– Wiring
– Phase order
– Analogue outputs
– Fresnel diagram



Display

– Instantaneous quantities (analogue or digital)

Recording

– In real time in exported file

To find out more, ask for our general catalogue

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