

PRODUCTS FOR NUCLEAR ENVIRONMENTS

Relays – Transducers – Panel Meters



Totally analog

Guaranteed for extreme conditions

K3-qualified

Made in France



Mesurer pour mieux Agir





A French brand

Chauvin Arnoux Energy, a French company in the Chauvin Arnoux Group, **meets the specific needs of the nuclear sector by providing its expertise built up over the last forty years.** Our teams handle every aspect of our product manufacturing, from design through to final inspection of the equipment. **Experienced and qualified, they guarantee quality, reliability and long-term support.** Our know-how is spread across our three factories in Normandy. **The Villedieu-les-Poêles**

factory handles the production of PCBs. The Vire factory is specialized in plastic injection and metal parts. The Pont-l'Évêque factory handles assembly, adjustment and checking, but it is also responsible for producing the RFF manufacturing completion report for the **K3-qualified** products made there, as well as a dedicated production line for the T82N models and relays

A long-term offering

Total mastery of our industrial know-how in our factories in France and our ability to match the **market trends in terms of the components and materials used in our instruments** enable us to guarantee constant product **quality and availability** over the long term.



An acknowledged quality approach



The major players on **the nuclear market** (EDF, Tractebel, Alstom, etc.) **have all demonstrated their trust in CHAUVIN ARNOUX ENERGY** due to its rigorous commitment to:

- qualification and training of its teams
- control of its manufacturing processes
- structured documentation

International presence

As a member of the **Chauvin Arnoux Group**, **Chauvin Arnoux Energy** benefits from a **worldwide presence** through its network of **ten subsidiaries and expert partners in the major countries.** Sales and technical teams in China ensure highly responsive coverage across the Asian continent. The Chauvin Arnoux Group has been present in China's nuclear plants for many years and is continuing with its partnerships to meet the requirements of the vast Chinese nuclear energy development program responsively. The company is also present in **Belgium, South Korea and South Africa**, in particular.



AUXILIARY RELAYS



RE3000

- 4 x 10 A
- Non-test f
- Freew an op

TIM

TOK



- 4 x 10 A changeover sw
- Electronics without pro digital components
- Adjustable time-delay o 4, 8, 16, 32 or 64 sec minute(s)

NORMEUROPE ANALOG METERS

- **CUSTOMIZABLE (DIALS, SCALE,**
- **BOOSTED RATINGS**

HIGH BREAK CAPACITY

VERY LONG MECHANICAL AND ELECTRICAL LIFE SPAN

INSTANTANEOUS



OK B184

- 4 x 10 A changeover contacts
- Built-in magnetic blowout
- Break capacity adapted to inductive loads



POK / Bi POK

- 2 x 10 A changeover contacts
- 4 x 10 A changeover contacts
- High contact pressure
- Built-in magnetic blowout

E-DELAY ON PICK-UP OR DROP-OUT

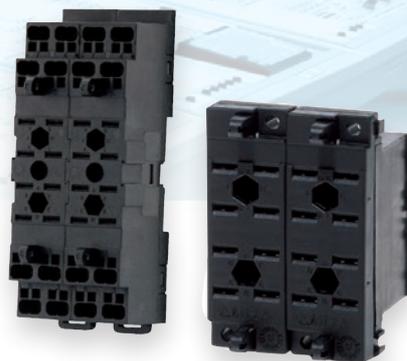
OKTA

Time-Delay on Pick-Up or Drop-Out



- 4 x 10 A changeover switches
- Electronics without programmable digital components
- Tailored time-delay range
- Increased contact pressure

OKTR



A WIDE CHOICE OF RELATED SOCKETS

PANEL



96 x 96



72 x 72



48 x 48



144 x 144

- Accuracy class 1.5
- Small-diameter housing for multiple connection possibilities

**PANEL METERS
(DEFLECTION, ETC.)**

IP55 – IK08

Available functions

AAC

VAC

F

AAC
max

P

Q

S

ADC

VDC

%

T82N ANALOG TRANSDUCERS



ELECTRONICS WITHOUT PROGRAMMABLE DIGITAL COMPONENTS



TOTALLY CONFIGURABLE ON REQUEST



TEMPERATURE UP TO 60 °C



UAR 1210B
RMS AC voltage
IAR 1210B
RMS AC current

PAR 1232B
Active power
QAR 1232B
Reactive power

FAR 1210B
Frequency
JAR 1211B
Phase angle

- Linear transfer curve
- Accuracy class 0.5
- Direct input or via CT
- 2 mounting modes: fixed or plug-in
- Tropicalization available as an option

CURRENT SENSORS

Measuring shunts



- Large choice from 1 to 6,000 A
- Significant overload capacity
- Rugged, customizable design

Current transformers



- Large choice from 3 to 3,000 A
- Multiple connection possibilities
- Compatible with any type of conductor

THE 5 STEPS FOR K3 QUALIFICATION K3



Electrical safety, functional and electromagnetic emissions testing

- Tests linked to electrical safety
- Functional tests
- Verification of electromagnetic emissions

Usage limit tests linked to the environment

- Electromagnetic disturbances
- Influence of temperature

Aging tests

- High temperature
- 2,000 hours

Seismic resistance testing

- Tremors

Technological validation tests

- Growth of whiskers

FOCUS



Drawing on its expertise built up over more than seventy years, CA PYROCONTROLE mainly designs tailored temperature sensors for cutting-edge industries such as the nuclear sector. At each strategic point in an installation, from the reactor building to the control room, including the auxiliary buildings, the sensors designed by CA PYROCONTROLE are qualified as K1, K2, K3 or NC to withstand the most extreme conditions in terms of irradiation, earthquake, high temperatures and high pressures.

- Fast-response sensors
- Surface sensors
- Motor or pump bearing sensors
- Pool sensors, etc.

PYROCONTROLE

Tel. : +33 4 72 14 15 40
mail: nuclear@pyrocontrolle.com
www.pyrocontrolle.com

FRANCE
Chauvin Arnoux Energy
16, rue Georges Besse
92182 ANTONY Cedex
Tél : +33 1 75 60 10 30
Fax : +33 1 46 66 62 54
caenergy@chauvin-arnoux.com
www.chauvin-arnoux-energy.com

INTERNATIONAL
Chauvin Arnoux Energy
16, rue Georges Besse
92182 ANTONY Cedex - FRANCE
Tél : +33 1 75 60 10 30
Fax : +33 1 46 66 62 54
caenergy@chauvin-arnoux.com
www.chauvin-arnoux-energy.com

SUISSE
Chauvin Arnoux AG
Moosacherstrasse 15
8804 AU / ZH
Tél : +41 44 727 75 55
Fax : +41 44 727 75 56
info@chauvin-arnoux.ch
www.chauvin-arnoux.ch

