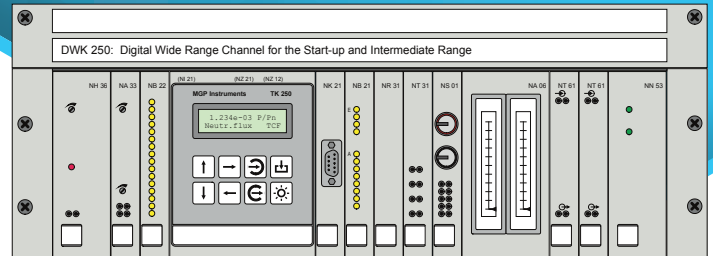




PROTK

DWK 250TM

Digital Wide Range Channel



Neutron flux monitoring combining pulse and intermediate range in combination with only one detector.

FEATURES

- 10 to 12 decades of measurement range with one detector only
- Calibration into neutron flux units (nv, P/Pn)
- Filtering of the signal with an adaptive time constant
- Calculation of the relative flux change rate (reciprocal of the reactor period) for the whole wide range
- Generation of analog and binary signals for the reactor protection system
- Remote test signal generators, even in the preamplifier
- The correct function of all signal paths can be tested before start-up

DESCRIPTION

The DWK 250 digital wide range channel forms part of the proTKTM product line.

It has been designed for neutron flux monitoring combining pulse and intermediate range in combination with only one detector, e.g. in-core or ex-core wide range fission chamber. Hardware and software of the DWK 250 are designed and qualified for applications at the level of the reactor protection system.

DETECTORS

- Wide range fission chambers, e.g. WSK 61 (AREVA NP), or CFUG 08 (Photonis)
- Cable length to the preamplifier: up to 100 m (328 ft)
- Detector supply: 0 ... 500V/4mA or 0 ... 800V/30mA

PREAMPLIFIER

- Input and output impedance matched to the cable impedance
- Remote operated test signal generator
- Short term operation (max. 3 h) up to 100°C (212°F)

DIGITAL SIGNAL PROCESSING

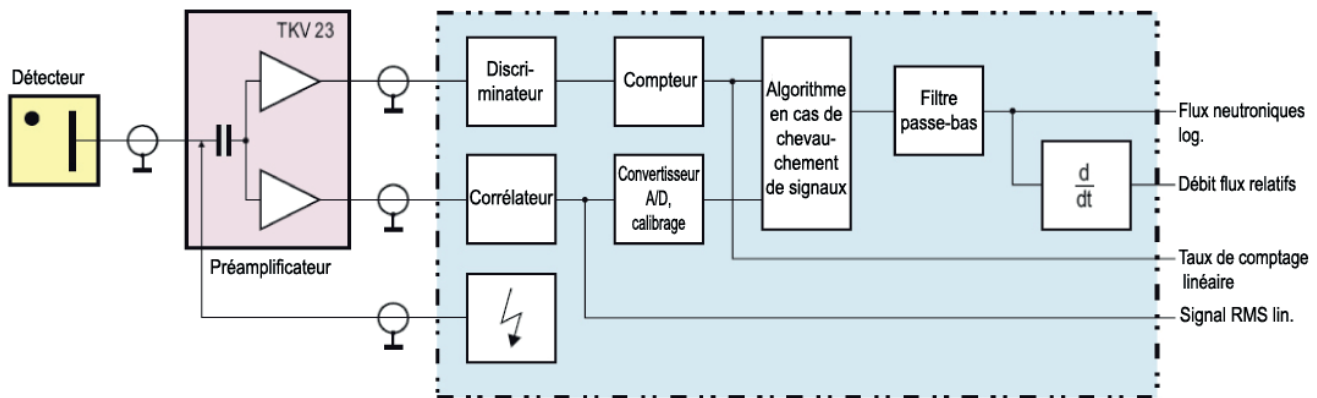
- 80C31/32 multi-processor system
- Program memory: EPROM
- Parameter memory: CMOS-RAM with integrated Li-battery
- Data interface: RS232 and/or RS485
- Internal LC-display: 2 x 16 characters

OUTPUT SIGNALS

- Linear pulse count rate, e.g. 0 ... 5e5 cps
- Linear RMS signal with automatic range selection, e.g. 0 ... 40/125 %Pn
- Logarithmic wide range signal, e.g. 1e3 ... 1e13 nv
- Neutron flux change rate = 1 / reactor period, e.g. -1.25 ... 0 ... 12.5 %/s corresponding to -80 ... ∞ ... +8 s reactor period
- Analog outputs: 0/4 ... 20mA/600 Ω, insulated
- Binary outputs: insulated relays change overs 60V/0.5A or 125V/1A

OTHER CHARACTERISTICS

- DC power supply: 18 ... 33 VDC, approx. 1.6A at 24 V
- Optional: AC power supply: 230 VAC or 115 VAC +10%/-15%, approx. 40 VA
- Operating temperature: 0 ... 70°C (32 ... 158°F) for the main electronics
- Mechanical vibrations: < 5 g, 5 ... 100 Hz
- 19" modular system according to IEC 60297
- Rack size (W×H×D): 483 mm × 133 mm × 280 mm (19 in × 5.2 in × 11 in)
- Plug-in boards: 100 mm × 160 mm (3.9 in × 6.3 in)



Featuring:

MGPiH&B