



FKS 1/32 DIN Controller

TECHNICAL SPECIFICATION

Case:	Polycarbonate case
Self extinguishing degree:	V-2 according to UL 746 C
Front protection:	designed and tested for IP65 and NEMA 4X for indoor locations (with panel gasket installed). Tests performed in accordance with IEC 529, CEI 70-1 and NEMA 250-1991 STD
Dimensions:	24 x 48 mm Depth 102 mm (DIN 43700)
Weight:	90 g max
Power supply:	(switch mode) from 100 to 240 Vac 50/60 Hz (+10% to -15% of nominal value) or 24 Vac/Vdc (+10% of nominal value)
Power consumption:	2.5 W
Common mode rejection ratio:	120 dB @ 50/60 Hz
Normal mode rejection ratio:	60 dB @ 50/60 Hz
Electromagnetic compatibility and safety requirements:	this instrument is marked CE and conforms to council directives 89/336/EEC (reference harmonized standard EN-50081-2 and 50082-2) and to council directives 73/23/EEC and 93/68/EEC (reference harmonized standard EN 61010-1)
Installation category:	II
Sampling time:	250 ms for linear inputs 500 ms for TC or RTD inputs
Accuracy:	+0.2% f.s.v. @ 25°C (77°F) and nominal power supply voltage
Operating temperature	from 0 to +50°C (32 to 122°F)
Storage temperature:	from -20 to +70°C (-4 to 158°F)
Humidity:	from 20% to 85% RH non-condensing

Measuring Inputs

☐ Thermocouples

Burnout open circuit detection (wires or sensor) via overrange indication

Cold junction: automatic compensation from 0 and 50°C ambient

Cold junction compensation error: 0.1°C/°C

Calibration: according to IEC 584-1

☐ RTD input

Type: PT 100 3 wire

Calibration: according to DIN 43760

Line resistance: Max 20 Ω/wire with no measurable error

Burnout: Detection of the sensor and of one or more wires open circuit. Shows short circuit indication when the resistance of the sensor is lower than 12 Ω

☐ Linear input

Type: 0-60 mV / 12-60 mV

Readout: keyboard programmable from -1999 to 9999

Decimal point: programmable to any position

Control Action

Algorithm: PID + SMART Tune

Types: -one control output

-two control outputs

Output types: Relay or SSR

Output control action: Time proportional

Proportional Band: from 1.0% to 100.0% of the input span. Setting the PB to 0 causes the control action to be ON/OFF

Hysteresis (for ON/OFF control action): from 0.1% to 10.0% of the input span

Integral preload:

- for one control output, from 0 to 100% of the output range.

- for two control outputs, from -100% to +100% of the heating/cooling output range

Main output cycle time: from 1 to 200 seconds.

Secondary output cycle time: from 1 to 200 seconds

Anti-reset-windup (ARW) action: from 10% to 200% of the input span

Relative secondary output gain: from 0.20 to 1.00 referred to the proportional band

Overlap/deadband: from -20% (deadband) to +50% (overlap) of the proportional band

Output limiters:

- output high limits

- output low limits

- output maximum rate of rise

Outputs 1 & 2

☐ **Function:** individually programmable as:

- Control output
- Alarm output

☐ **Output 1 & 2 - Relay**

Relay type: SPST

Contact rating: 3 A @ 250 Vac on resistive load

☐ **Output 1 & 2 - SSR**

Type: non-isolated outputs

- Logic level 1: 14 Vdc @ 20 mA max. 24 Vdc @ 1 mA
- Logic level 0: <0.5 Vdc

Alarms

Alarm action: direct or reverse

Alarm functions: each alarm can be configured as process alarm, band alarm, deviation alarm

Alarm reset: automatic or manual reset programmable for each alarm

Alarm masking each alarm can be configured as masked alarm or standard alarm

Hysteresis: programmable in engineering units from 1 to 200 digits

☐ **Process alarm**

Operating mode: Minimum or maximum programmable

Threshold: programmable in engineering units within the input range

☐ **Band Alarm**

Operating mode: Inside or outside programmable

Threshold: Low - from 0 to -1000 units

High - from 0 to +1000 units

☐ **Deviation alarm**

Operating mode: High or low programmable

Threshold: programmable from -1000 to +1000 units

☐ **Loop break alarm**

Operating mode: automatically activated when the power output reaches the programmed limits

Time interval: programmable from 1s to 40 minutes

Deviation: programmable from 0 to 500 digits

Hysteresis: from 1 to 50% of the input span

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