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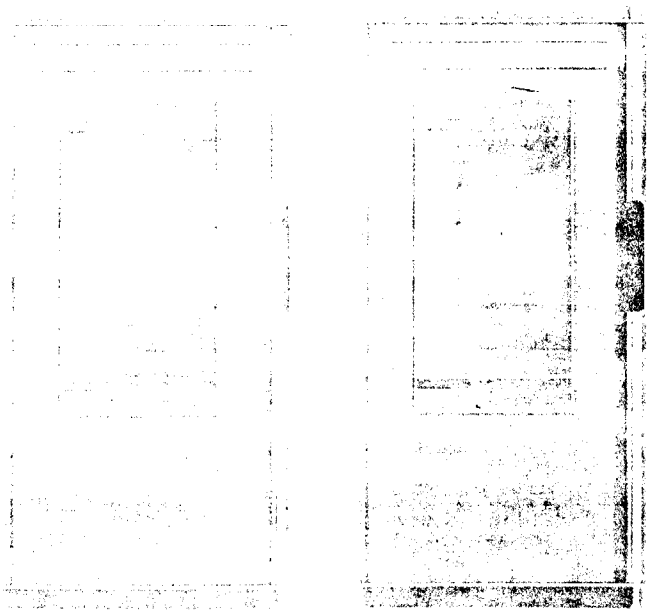
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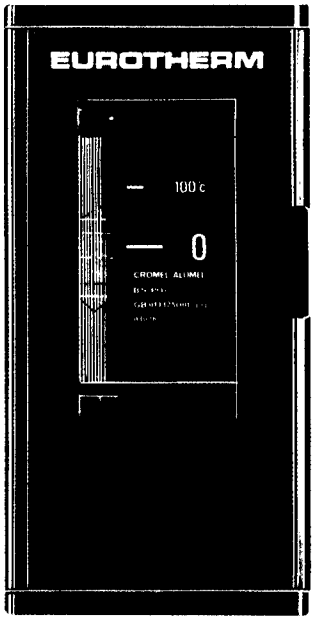
Find the *Schneider Electric / Eurotherm 106-028-01-020-19-59-09-00* at our website: *Click HERE*

EUROTHERM

EI

Process Alarm





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- Compact precision alarm unit
- Analogue setting on 113mm scale with adjacent indication on 5-bar LED display
- Scale stops permit limiting of trip point adjustment
- Latching option
- High reliability solid-state circuitry
- Fail-safe high or fail-safe low
- Upscale or downscale thermocouple break action
- Plug-in mounting for rapid insertion and removal

Description

The 106 can be used as an alarm instrument,a trip instrument or a controller with an external contactor or circuit breaker.

For maximum security, operation from a separate thermocouple is recommended. However, the 106 can share the thermocouple of another controller or recorder without introducing significant errors. Break protection must be the same on both units.

A clear 113mm scale provides the analogue setpoint/alarm point and a vertical bank of five LEDs mounted alongside gives the temperature indication about the alarm point.

Technical Specification

Quoted at 25°C unless otherwise stated

Inputs

Thermocouple	U.S. Standard	ASTM E230 (1972)
	British Standard	BS 4937 (1973)
	German Standard	DIN 43710
	Scale ranges	See scale list
	Effect of thermocouple lead resistance	mV error equal to bias current circuit resistance
	Thermocouple break protection	Upscale on 046-028 (high alarm) downscale on 046-036 (low alarm)
	Cold junction compensation	Upscale std. on Controller version. Better than 15:1 rejection
Resistance Thermometer	100 ohm bulb at 0°C	
	British Standard	BS1904
	German Standard	Pt100 to DIN 43760
	Scale ranges	See scale list
	3 or 2 wire	Automatic compensation reduces lead resistance error in 3 wire
	RT break protection	Only on 2 out of 3 wires for 3 wire RT Full protected on 2 wire RT Upscale only available
	Sensor bias current	1mA

Outputs

Relay	2A/250V ac	Single pole changeover, de-energised in alarm (failsafe) N/O contact suppressed with 0.022μF and 100 Ω

General

Setpoint System	Scale length	113mm
	Scale stops	Optional upper and lower stops adjustable in steps of 1% of span
	Setpoint repeatability	<0.5% of span
	Setpoint linearity	3% of span
	Calibration accuracy	<0.5% of span at lower and upper calibration points
	Indication	5-segment LED display, giving deviations from setpoint of: above 3%, +1 to +3%, ±1%, —1 to — 3%, below 3% of span
	Deadband pot	Plug-out adjustable 0.2 to 2% of span
	Common mode rejection	Sensor can be elevated up to 240V/50Hz without affecting instrument accuracy
	Series mode rejection	No effect for up to 50mV at 50Hz
	Effect of supply voltage variation	< 0.1% change in setpoint for ±15% supply voltage change
Other Details	Finish: sleeve	Flame-retardent plastic
	half case	Aluminium
	Power supply	100-130V] 50/60Hz 200-260V] 100/200 +10—15% 50/60Hz
	Power consumption	1.5VA max
	Weight	0.4Kg
	Terminals	DIN double faston or single screwed (optional)
	Dimensions	96 x 48 x 125mm

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Two forms of output relay action are available.

Type -028 gives protection against over-temperature conditions, with the relay de-energising above the alarm point, and Type -036 gives protection against under-temperature conditions, with the relay de-energising below the alarm point; this relay logic gives a fail-safe action. A thermocouple break is protected by upscale and downscale break protection respectively, with an RT break upscale only. Refer to the specification for further details.

One changeover set of relay contacts is brought out to the rear terminals, with a suppression circuit being connected between the n/o contact and common.

For fleeting alarms an optional latching relay feature is available. The relay remains de-energised if the temperature comes out of the alarm condition and can only be reset by the push button on the front of the instrument.

A deadband adjustment potentiometer is accessed by removing the instrument from its sleeve, and is variable between 0.2% and 2% of span, the alarm point being always at the setpoint shown on the drum.

An alarm state LED is mounted below the indicator array, and shows the state of the output relay. The standard arrangement has the LED illuminating for a de-energising relay (one that is in alarm). An option is available to have the 106 built as a controller rather than an alarm unit; the LED is altered in action to illuminate for an energised relay, when power is switched to the load.

Ordering Information

You are welcome to order by description or by code below, which is a useful check list.

Basic Product	Code
Process Alarm	106

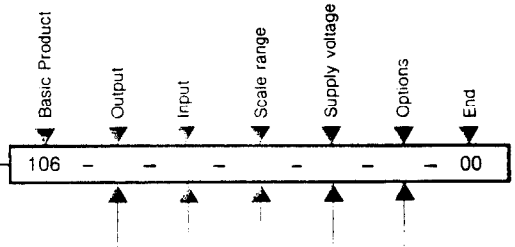
Output	
Relay 2A/250V de-energising for high alarm	028
Relay 2A/250V de-energising for low alarm	036

Input	
See inputs and scale ranges	

Scale Range	
See inputs and scale ranges	

Supply Voltage	
100-130V 50/60Hz]	19
200-260V 50/60Hz]	
100/200V + 10% — 15% 50/60Hz	25

Options	
Screw Terminals	09
Downscale t/c break (std. with -036 output)	24
Upscale t/c break (stn. with -028 output)	50
Latching alarm and reset push button	59
Controller version (LED illuminating when relay energised upscale t/c break std.)	85



Note: Scale stops now fitted as standard

Example order

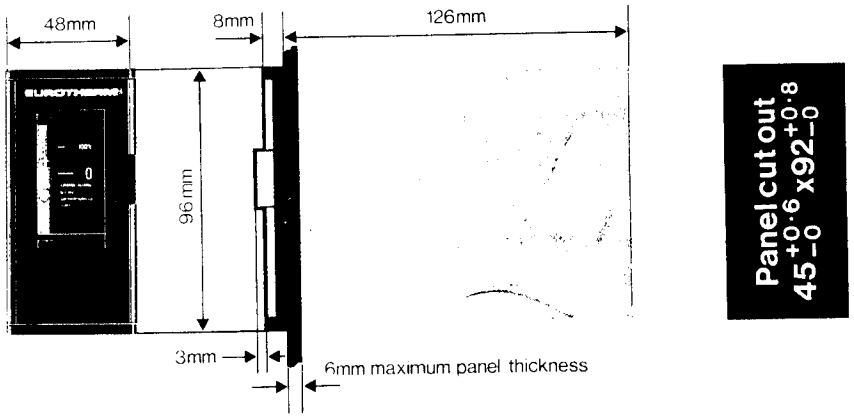
To specify:
Alarm unit (106) with a high alarm de-energised relay output (028), accepting a chromel-alumel thermocouple (03) with a temperature range of 0-400°C (020), supply voltage of 240V, 50Hz (19) and reset push button option (59)

Write: 106-028-03-020-19-59-00

Inputs and Scale Ranges
Input Types

		Code	Degree Scales: 0-100°C	0-200°C	0-400°C	0-600°C	0-800°C	0-1000°C	0-1200°C	0-1600°C	—10.50°C	—100 — +100°C	—100 — +200°C	—200 — +200°C	0-250°F	0-400°F	0-800°F	0-1200°F	0-1400°F	0-1600°F	0-2400°F	0-2800°F	—50 — +250°F	—60 — +500°F	—100 — +350°F	0-100 Divisions	0-100 Figures	Millivolt Scales: —5 +5mV
Iron-Constantan	J	01		017	020	023		025								134	194		321				486	245				
Iron-Constantan	DIN43710	02		017	020																							
NiCr-NiAl	K	03			020	023	024	025	026								194	056		322	323							
Copper-Constantan	T	04										003		090														
Pt13% Rh/Pt	R	05							026	028												324						
Pt10% Rh/Pt	S	06							026	028												324						
Copper-Constantan	T	19													325									298				
Platinell 2		28																										
Resistance thermometer (100 at 0°C)		70	015	017	020						248		079															
Millivolts (no CJC)		97																										
Linear		98																							250	110		492

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Eurotherm Companies
Sales and Service List

Great Britain
Eurotherm Limited
Faraday Close Durrington
Worthing West Sussex BN13 3PL
Telephone Worthing (0903) 68500
Telex 87114 EUROWG G
Also regional offices
Fax 0903 65982

Australia
Eurotherm International Pty. Ltd.
Suite 1A 44-46 Oxford Street
Epping Sydney
New South Wales 2121
Telephone (02) 869-1099
Telex 74362 EAISY D

Austria
EI Mess-und Regelgeräte-GesmbH
Gelereckstr 18
A-1110 Wien
Telephone Wien (0222) 787601
Telex 113200 EI AUT/A
Fax 3-0222-787605

Belgium Luxemburg & Netherlands
Eurotherm International Benelux B.V.
Johan Frisotraat 1
2382 HJ Zoeterwoude
Nederland
Telephone Leiden (071) 411841
Telex 39073 EIBNL NL

Canada
Eurotherm Corporation
490 McNicoll Avenue
Willowdale Ontario M2H 2E1
Telephone (416) 497-0155
Telex 06-986766

Denmark
Telemetric Instrument ApS
GL. Hovedgade 10E
DK 2970 Horsholm
Telephone Copenhagen (2) 861121
Telex 32317 TELSAND S

France
Eurotherm Automation
Parc d'Affaires de Dardilly
6 chemin des Joncs, B.P. 55
69572 Dardilly Cedex
Telephone Lyon (7) 866 19 43
Telex 380038 EURTERM F
Also regional offices

Hong Kong
Eurotherm (Far East) Limited
49-51 Wong Chuk Hang Road
Flat A & B 19/F, Derrick Ind. Building
Aberdeen
Telephone Hong Kong (5) 546391
Telex 72449 EFELD HX

Italy
Eurotherm S.p.A.
Via Della Chiesa 1
22070- Cassina Rizzardi (Como)
Telephone Como (031) 927354
Telex 380893 EUROTH I
Fax 39-31-977512

Japan
Nippon Eurotherm K.K.
Sakae Building 14-5
Asagaya-Minami 1-chome
Suginami-Ku Tokyo
Telephone Tokyo (03) 315-1628
Telex 02324016 EUROJA J
Fax 81-3-3120086

Sweden
Telemetric AB
PO Box 24
Hantverkaregatan 18
23200 Arloev
Telephone (40) 435460
Telex 32317 TELMET S

Switzerland
Eurotherm Produkte (Schweiz) A.G.
Kanalstrasse 17
8152 Glattbrugg
Telephone Glattbrugg (01) 810 36 46
Telex 56533 EPSAG CH
Fax 41-1-8108920

U.S.A.
Eurotherm Corporation
11485 Sunset Hills Road
Reston Virginia 22090
Telephone Reston (703) 471 4870
Telex 899449 EUROTHERM RSTN
Also regional offices
Fax 1-703-4373182

West Germany
Eurotherm Regler GmbH
Ottostrasse Postfach 1453
6250 Limburg a.d. Lahn 1
Telephone Limburg (06431) 29050
Telex 484791 EUROT D
Also regional offices

Sales and Service in 32 countries

For countries not listed above all enquiries/orders to:

Eurotherm Exports
Faraday Close, Durrington,
Worthing, West Sussex, BN13 3PL
England. Telephone Worthing (0903) 68500
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