

Indicators, Alarm Units, Timers, Counters

Indicators
Alarm Units
Timers
Counters



GEFRAN

Our Knowhow,
Your Solution.

MICROPROCESSOR INDICATORS / ALARM UNITS

- Fully configurable
- Inputs: temperature, pressure, force, alternating current and voltage, frequency, process
- Fully configurable alarms
- Outputs: solid state relay, triac, analog retransmission
- Multichannel models
- Serial communication
- Programming by PC with Winstrum

4/40 Series the best solutions for every format

Flexibility, easy operation, compactness: these are the advantages of the many indicators and alarm units in the 4/40 series.

Configuration of all popular industrial sensors (thermocouples, resistance thermometers, PTC, NTC, linears, custom, potentiometers, strain-gauges, VAC, VDC, frequency), easy configuration from keyboard and by PC, high "sample time" and resolution levels, a variety of standard formats, are only some of the "pluses" of this complete line.

APPLICATIONS

- Plastic extrusion machines and lines
- Melt pressures and temperature, speed
- Weighing systems
- Test benches
- Wood- and marble-working machines
- Rolling press lines



I300 Series resolution, precision, versatility



I300 satisfies the demand for greater precision in measurement by thermocouples, resistance thermometers, linears and strain-gauges, with precision of 0.1%, 30,000 conversion points, and a full 5-digit display.

SECTORS OF APPLICATIONS

- Food plants
- Dryers
- Chemical and pharmaceutical plants
- Weighing systems

2400 Series speed and precision



High-resolution fast indicator, 96x48 (1/8 DIN) format, for measurement and alarming of pressure (direct and differential), displacement, force, temperature, process variables measured by amplified sensors.

CALCULATION CAPACITY

- Compare input variables, calculate the engineering unit, calculate flow rates, ratio, etc.
- Results can be used as process value / alarm setpoint / retransmitted output

TWO CHANNELS FOR MEASUREMENT/WEIGHING

- Two main inputs let you simultaneously make two rapid acquisitions with a single instrument.
- The instrument can supply up to 6 load cells in parallel
- Resolution: 100,000 points

EASY CALIBRATION

- Just enter the sensor label data
- You can always calibrate conventionally by using the menu.
The sampling value (80% standard) can be set for a strain-gauge

2308 series: centralize, indicate, intercept



The 2308 concentrates up to 8 signals from different types of inputs, such as thermocouples, resistance thermometers (2 or 3 wires), or linear signals. (4...20 mA, 0...50 mV), while simultaneously reading data via serial line and providing alarm relays for setpoints: all this makes it absolutely unique.

Winstrum



Configuration kit for Gefran instruments by means of PC (Windows environment). Lets you read or write all of the parameters of a single instrument via serial connection.

- Rapid configuration of instruments
- Saving and management of parameter recipes
- On-line trend and saving of historical data
- Recovery of factory settings
- Custom linearization
- On-line user manual

GUIDE TO SELECTION

of microprocessor Indicators / Alarm Units

Indicators, Alarm Units, Timers, Counters

FORMAT	72x36	96x48 (1/8 DIN)	72x36	48x48 (1/16 DIN)	48x48 (1/16 DIN)	96x48 (1/8 DIN)	96x48 (1/8 DIN)	96x48 (1/8 DIN) multichannel
	3 Digit	3 Digit	4 Digit	4 Digit	4 Digit	4 Digit	5 Digit	5 Digit
TYPE OF VARIABLE TO BE ACQUIRED								
Temperature: thermocouple, resistance thermometers, PTC, NTC	4T72-3 4OT72-3	4T96-3 4OT96-3	4T72-4 4OT72-4	4T48-4	4T48-4	4T96-4 4OT96-4	I300 (no PTC and NTC)	2308 (no PTC and NTC)
Pressure, force (weight) (strain-gauge 4/6 wire)				4B48-4 4OB48-4			4B96-5 4OB96-5 2300 I300	
Position: linear and rotary potentiometers				4B48-4 4OB48-4			4B96-5 4OB96-5 2300	4B96-5 4OB96-5 2308 (4channels)
Variables converted into normalized electrical signal (0/4-20mA, 0-10V)	4T72-3 4OT72-3	4T96-3 4OT96-3	4T72-4 4OT72-4	4T48-4	4OT48-4	4T96-4 4OT96-4	2400 I300	2308 (4channels) I300 (2 channels for difference and for temperature humidity)
Alternating currents and voltages		4A96-3		4A48-4 4OA48-4		4A96-4 4OA96-4		2308 (8 channels 0-100 mVac)
Position, speed, rpm, frequencies (from limit switch, encoder, contact)						4OF96-4		
					Serial comm. MODBUS, CENCAL		Serial comm. MODBUS, CENCAL	Serial comm. MODBUS, CENCAL

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Timer / Counters

- Fully configurable
- Relay outputs
- Multiple timer / counter function modes
- Frequency meter function (556)



	one time	two times	count	one display	two displays	one display
Timer up to 999 sec.	55					
Timer up to 9,59h		550		550		
Timer up to 99,59h		556	556		556	
Counter 100Hz				550		
Counter 5Khz			556		556	
Counter/piece counter 100Khz						2351
Frequency meter 5Khz				556		
						serial comm. CENCAL

: Indicators, Alarm Units, Timers, Counters



MODEL		4T 72	4T 48/4T96
		Temperature indicator	Temperature indicator
FRONT PANEL DIMENSIONS		72 x 36mm	48 x 48mm (1/16 DIN) / 96 x 48mm (1/8DIN)
INPUTS	Number of analog inputs	1	1
	Sampling time	120 - 60 - 30 - 15msec	120 - 60 - 30 - 15msec
	Precision	0,2%±1 digit	0,2%±1 digit
	Maximum resolution	8000 pti	16000 pti
	Input filter	0...20,0 sec + display hysteresis 0...9,9 scale points	0...20,0 sec + display hysteresis 0...9,9 scale points
	Zero Offset	Settable by user over entire scale range	Settable by user over entire scale range
	Application	Indicator of physical quantities -1999...+9999 (with or without decimal point)	Indicator of physical quantities -1999...+9999 (with or without decimal point)
	THERMOCOUPLES		Types
		Cold junction compensation	Internal, with automatic compensation
RESISTANCE THERMOMETER		Types	Pt100 DIN43710 (3-wire), Pt100 Japan, custom
THERMISTORS		Types	PTC, NTC (1K/25°C), custom
LINEAR		Types	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V
			possible linearization on 32 segments
POTENTIOMETER			(R77 version) Input from potentiometer (min 100Ω) powered by instrument 1,2Vdc
PRESSURE PROBE LOAD CELLS			
ALTERNATING SINUSOIDAL (Current transformer)		Types	
		Ranges	
		Application	
POWER SUPPLY FOR TRANSMITTER		18Vdc ±10% non-stabilized, 50mA 1,2Vdc for potentiometer >100Ω	24Vdc ±10% non-stabilized, 50mA 15Vdc for transmitter; 50mA 1,2Vdc for potentiometer >100Ω
POWER SUPPLY		11...27Vdc, 18...27Vac ±10% 50/60Hz not isolated from sensor	4T48: 20...27Vac/dc, 100...240Vac/dc; ±10%50/60Hz 4T96: 11...27Vac/dc, 100...240Vac/dc; ±10%50/60Hz
FACEPLATE PROTECTION LEVEL		IP65	IP65

**4A 48 / 4A 96**

Alternating current and voltage indicator

48 x 48mm (1/16 DIN) / 96 x 48mm (1/8 DIN)

1

120msec

0,2%f.s. ±1 digit (for 2/20Vac, 20/50mAac, 1Aac)
0,5% f.s. ±1 digit (per 200Vac, 500Vac, 5Aac)

8000 pti

0...20,0 sec + display hysteresis
0...9,9 scale points

Settable by user over entire scale range

Indicator of physical quantities -1999...+9999
(with or without decimal point)

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Direct non-isolated input or via
transformer in voltage or AC0...2/0...20/0...200/0...500Vac
0...20/0...50/0...200mAac, 0...1/0...5Aac

Volt meter, Ammeter

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Iz
Iz11...27Vac/dc, 100...240Vac/dc;
±10%50/60Hz

IP65

4B 48

Pressure, force, position indicator

48 x 48mm (1/16 DIN)

1

120 - 60 - 30 - 15msec

0,2%±1 digit

8000 pti

0...20,0 sec + display hysteresis
0...9,9 scale points

Settable by user over entire scale range

Indicator of physical quantities -1999...+9999
(with or without decimal point)

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Input from potentiometer (min 100ΩΩ)
powered by instrument 1,2Vdc
possible linearization on 32 segmentsAutorange sensitivity 1,5...3,3mV/V
possible linearization on 32 segments

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1,2Vdc for potentiometer
5-10Vdc/120mA; 15Vdc/50mA
24Vdc non-stabilized, 50mA11...27Vac/dc, 100...240Vac/dc;
±10%50/60Hz

P65

4B 96

Pressure, force, position indicator

96 x 48mm (1/8 DIN)

1

120 - 60 - 30 - 15msec

0,2%±1 digit

16000 pti

0...20,0 sec + display hysteresis
0...9,9 scale points

Settable by user over entire scale range

Indicator of physical quantities
-1999...+9999 (resolution 1 digit)
-19990...+99990 (resolution 10 digit)
Configurable decimal point position

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Input from potentiometer (min 100ΩΩ)
powered by instrument 1,2Vdc
possible linearization on 32 segmentsAutorange sensitivity 1,5...3,3mV/V
possible linearization on 32 segments

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1,2Vdc for potentiometer
5-10Vdc/120mA; 15Vdc/50mA
24Vdc non-stabilized, 50mA11...27Vac/dc, 100...240Vac/dc;
±10%50/60Hz

IP65

: Indicators, Alarm Units, Timers, Counters

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Indicators, Alarm Units, Timers, Counters

MODEL		 40T 72 Temperature Indicator / Alarm Unit	 40T 48/ 40T 96 Temperature Indicator / Alarm Unit
FRONT PANEL DIMENSIONS		72 x 36mm	48 x 48mm (1/16 DIN) / 96 x 48mm (1/8 DIN)
INPUTS	Number of analog inputs	1	1
	Sampling time	120 - 60 - 30 - 15msec	120 - 60 - 30 - 15msec
	Precision	0,2%±1 digit	0,2%±1 digit
	Maximum resolution	8000 pti	16000 pti
	Input filter	0...20,0 sec + display hysteresis 0...9,9 scale points	0...20,0 sec + display hysteresis 0...9,9 scale points
	Zero Offset	Settable by user over entire scale range	Settable by user over entire scale range
	Application	Indicator of physical quantities -1999...+9999 (with or without decimal point)	Indicator of physical quantities -1999...+9999 (with or without decimal point)
THERMOCOUPLES	Types	J, K, T, E, N, S, R, B, LGost, U, G, D, C, custom with scales in °C or °F (IEC 584)	J, K, T, E, N, S, R, B, LGost, U, G, D, C, custom with scales in °C or °F (IEC 584)
	Cold junction compensation	Internal, with automatic compensation	Internal, with automatic compensation
RESISTANCE THERMOMETER	Types	Pt100 DIN43710 (3-wire), Pt100 Japan, custom	Pt100 DIN43710 (3-wire), Pt100 Japan, custom
THERMISTORS	Types	PTC, NTC (1K/25°C), custom	PTC, NTC (1K/25°C), custom
LINEAR	Types	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V
		Possible linearization on 32 segments	Possible linearization on 32 segments
POTENTIOMETER		-	(R77 Version) Input from potentiometer(min 100Ω) powered by instrument 1,2Vdc
PRESSURE PROBE LOAD CELLS		-	-
ALTERNATING SINUSOIDAL (Current transformer)	Types	-	-
	Ranges	-	-
	Application	-	-
DIGITAL COMMUNICATION		-	RS485, 1200...19200 baud MODBUS RTU, CENCAL GEFTRAN
DIGITAL INPUT	Types	Optoisolated passive PNP isolated 1500V	Optoisolated passive PNP isolated 1500V
	Application	Tare zero, reset alarm latches, Hold, Flash	Tare zero, reset alarm latches, Hold, Flash
OUTPUTS		max 3	max 4
RELAY	NA	max 5A, 250V resistive load cosφ = 1	max 5A, 250V resistive load cosφ = 1
	Application	Alarm units, alarms, on/off control	Alarm units, alarms, on/off control
LOGIC	Types	With 18Vac/dc power supply Rout 560Ω (6V/20mA)	24V (10V min / 20mA max)
	Application	Alarm units, alarms, on/off control	Alarm units, alarms, on/off control
TRIAC	Types	24...240Vac ± 10% 2A max	24...240Vac ± 10% 1A max
	Application	Alarm units, alarms, on/off control	Alarm units, alarms, on/off control
ANALOG	Types	4...20mA (R max 60Ω) res.12bit not isolated	0...10V,4...20mA (Rmax = 500Ω) res.12bit not isolated
	Application	Retransmission of variable	Retransmission of variable
POWER SUPPLY FOR TRANSMITTER		18Vdc; 50mA	24Vdc ±10% non-stabilized, 50mA 15Vdc for transmitter, 50mA 1,2V for potentiometer
POWER SUPPLY		11...27Vdc, 18...27Vac; ±10% 50/60Hz not isolated from sensor	40T48: 20...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz 40T96: 11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz
FACEPLATE PROTECTION LEVEL		IP65	IP65



40A 48 / 40A 96

Voltage and AC Indicator / Alarm Unit

48 x 48mm (1/16 DIN) / 96 x 48mm (1/8 DIN)

1

120msec

0,2%f.s. ±1 digit (per 2/20Vac, 20/50mAac, 1Aac)
0,5% f.s. ±1 digit (per 200Vac, 500Vac, 5Aac)

8000 pti

0...20,0 sec + display hysteresis
0...9,9 scale points

Settable by user over entire scale range

Indicator of physical quantities -1999...+9999
(with or without decimal point)

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Direct non-isolated input or via
transformer in voltage or AC

0...2/0...20/0...200/0...500Vac
0...20/0...50/0...200mAac, 0...1/0...5Aac

Voltmeter, Ammeter

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Optoisolated passive PNP isolated 1500V

Tare zero, reset alarm latches, Hold, Flash

max 3

max 5A, 250V resistive load cosφ = 1

Alarm units, alarms

11V Rout 220Ω (6V/20mA)

Alarm units, alarms

24...240Vac ± 10% 3A max (solo per mod.40A96)

Alarm units, alarms

4...20mA (R max 150Ω) resolut. 12bit not isolated

Retransmission of variable

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11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz

IP65

40B 48

Voltage and AC Indicator / Alarm Unit

48 x 48mm (1/16 DIN)

1

120 - 60 - 30 - 15msec

0,2%±1 digit

8000 pti

0...20,0 sec + display hysteresis
0...9,9 scale points

Settable by user over entire scale range

Indicator of physical quantities -1999...+9999
(with or without decimal point)

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Input from potentiometer (min 100Ω)
powered by instrument 1,2Vdc
possible linearization on 32 segments

Autorange sensitivity 1,5...3,3mV/V
possible linearization on 32 segments

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Optoisolated passive PNP isolated 1500V

Tare zero, reset alarm latches, Hold, Flash

max 3

max 5A, 250V resistive load cosφ = 1

Alarm units, alarms, on/off control

11V Rout 220Ω(6V/20mA)

Alarm units, alarms, on/off control

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Alarm units, alarms

4...20mA (R max 150Ω) resolut. 12bit not isolated

Retransmission of variable

1,2Vdc for potentiometer
5-10Vdc/120mA; 15-24Vdc/50mA

11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz

IP65

40B 96

Pressure, force, position Indicator / Alarm Unit

96 x 48mm (1/8 DIN)

1

120 - 60 - 30 - 15msec

0,2%±1 digit

16000 pti

0...20,0 sec + display hysteresis
0...9,9 scale points

Settable by user over entire scale range

Indicator of physical quantities -1999...+9999
(resolution 1 digit) -19990...+99990 (resolution 10 digit)
Configurable decimal point position

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Input from potentiometer (min 100Ω)
powered by instrument 1,2Vdc
possible linearization on 32 segments

Autorange sensitivity 1,5...3,3mV/V
possible linearization on 32 segments

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RS485, 1200...19200 baud
MODBUS RTU, CENCAL GEFAN

Optoisolated passive PNP isolated 1500V

Tare zero, reset alarm latches, Hold, Flash

max 4

max 5A, 250V resistive load cosφ = 1

Alarm units, alarms, on/off control

24Vdc (10V min /20mA max)

Alarm units, alarms, on/off control

24...240Vac ± 10% 1A max

Alarm units, alarms

0...10V, 4...20mA (Rmax 500Ω) resolut. 12bit not isolated

Retransmission of variable

1,2Vdc for potentiometer
5-10Vdc/120mA; 15-24Vdc/50mA

11...27Vac/dc, 100...240Vac/dc; ±10%
50/60Hz

IP65



Indicators, Alarm Units, Timers, Counters

MODEL	40TB	40F 96
	Double indication/intercept of temper.and pressure	Frequency Indicator / Alarm Unit
FRONT PANEL DIMENSIONS	96 x 96mm (1/4 DIN)	96 x 48mm (1/8 DIN)
INPUTS	Number of analog inputs	1 mech. contact, logic or alternating voltage drive
	Sampling time	Configurable frequency: 100KHz max.
	Precision	0,2%±1 digit
	Maximum resolution	16000 pti
	Input filter	0...20,0 sec + display hysteresis 0...9,9 scale points
	Zero offset	Settable by user over entire scale range
	Application	Indicator of frequencies -1999...+9999 (settable decimal point)
THERMOCOUPLES	Types	J, K, T, E, N, S, R, B, LGost, U, G, D, C, Custom with scale in °C or °F (IEC 584)
	Cold junction compensation	Internal, with automatic compensation
RESISTANCE THERMOMETER	Types	Pt100 DIN43710 (3-wire), Pt100 Japan
THERMISTORS	Types	PTC, NTC (1K/25°C)
LINEAR	Types	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V Ri > 500Ω for voltage signals ≤ 1V Ri > 20KΩ for voltage signals > 1V Ri = 50ΩΩ for current signals
	Possible linearization on 32 segments	-
POTENTIOMETER	Input from potentiometer (min 100Ω) powered by instrument 1,2Vdc	-
PRESSURE PROBE / LOAD CELLS	Autorange sensitivity 1,5...3,3mV/V	-
FREQUENCY	Type	-
	Type	Input from inductive or capacitive proximity encoder NAMUR 2- or 3-wire limit switch Input in alternating voltage 0,5...500V
	Type	Input frequency ranges ≤ 20KHz
	Display	Frequency meter with or without automatic scale and decimal point change, Input frequency selectable in ranges: 9.999; 99.99; 999.9; 9999
	Application	Revolution counter or frequency meter with programmable sampling time
DIGITAL INPUT	Type	2 inputs from voltage-free contact
	Application	Tare zero, reset alarm latches, Hold, Flash
OUTPUTS	max 3	max 3
RELAY	NA	max 5A, 250V resistive load cosφ = 1
	Application	Trip points, alarms
LOGIC	Type	11V Rout 220Ω(6V/20mA)
	Application	Trip points, alarms
TRIAC	Type	24...240V ±10% 3A max.
	Application	Trip points, alarms
ANALOG	Type	2 outputs: 0-10V, 0/4-20mA is. 1500V,resol.12 bit
	Application	Configurable
DIGITAL COMMUNICATION	RS485, RS232 1200...19200 baud MODBUS RTU, CENCAL GEFTRAN	-
SENSOR OR TRANSMITTER POWER SUPPLY	1,2Vdc for potentiometer > 100Ω 5,10Vdc max. 120A for strain gauge 15Vdc max/80mA; 24Vdc max 50mA for transm. 2-wire	24Vdc; ±10% not stabilized 50mA max 5Vdc/120mA; 12Vdc/50mA max
POWER SUPPLY	100...240Vac/dc ± 10% 20...27Vac/dc ±10% 50/60Hz	11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz
FACEPLATE PROTECTION LEVEL	IP65	IP65



2400

Fast Indicator / Alarm Unit

96 x 48mm (1/8 DIN)

2 Main, 2 Auxiliaries

2 msec

0,1% f.s.± 1 digit (0,2% f.s. for TC)

100000 pti

0,0...20,00 sec input reading,
0,0...9,9 sec display

Settable by user over entire scale range

Indicator of pressure, forces, weight, shift,
physical quantities -19999...+99999
settable decimal point

J, K, R,S, Tcon scala in °C o °F

Internal / external

RTD 2/3/4-wire, Pt100, scale °C or °F

Strain-gauge: 5/10Vdc 200mA, 350Ω
Potentiometer: ≥100Ω, Ri >10MΩ @ 2,5Vdc
DcLinear: 0/4...20mA (Ri = 50Ω)
±100mV, Ri > 10MΩ; ±1V...±10V, Ri > 2MΩ;
Auxiliary input: 0...10V (Ri ≥ 2MΩ);
0/4...20mA (Ri = 50Ω)
Possible linearization on 64 segments

≥100Ω, Ri > 10MΩ

Strain-gauge 350Ω; sensitivity 1,5...4mV/V



2308

Multizone Indicator / Alarm Unit

96 x 48mm (1/8 DIN)

8

900 msec

0,2% f.s.± 1 digit for linear inputs;
0,5%f.s.± 1 digit for TC, RTD inputs, mVac

4000 pti

Fixed 120 msec, may be cut out

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Indicator of temperature and
physical quantities -999...3000
settable decimal point

J, K, R,S, Tcon scala in °C o °F

Internal, with automatic compensation

RTD 2/3/4-wire, Pt100, scale °C or °F

0...20mV, 0...50mV, 0...100mV, 0...10V (Ri ≥1MΩ);
0/4...20mA (Ri = 50Ω); 100mVac,
external dividers
provided for signals up to 1500Vac and
and external shunts for 20Aac and 5Aac

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1300

Configurable Indicator / Alarm Unit

96 x 48mm (1/8 DIN)

2

100ms. current, voltage, RTD, ext. TC comp. input.
200ms. differential input; Ur/t°C; internal TC comp.

0,1%±1 digit

32000 pti

0...20

Settable by user ± 500 scale points

Indicator of frequencies
-10000...+20000
(with or without decimal point)

J, K, T, E, N, S, R, B, L, Ni-Ni18Mo, W Re 5/26

Internal, with automatic compensation

Pt100 DIN43710 (3-wire), JPt100 Japan, Ni100

0/4...20mA, -20...20mA, 0...50mV,
10...50mV,
-50...50mV, 0...100mV, 0...1V, 0...10V
Ri = 100KΩ for input 10V
Ri = 2,5Ω for input mA
Ri > 1MΩ for other inputs
Possible linearization on 25 segments

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2, NPN or PNP, optoisolated, configurable function

Reset, Zero, Tare, Calibration, Loc/Rem, Hold, Flash

max 4; can be expanded up to 10 relay
or logic outputs with MD81.

5A/250V contacts, resistive load cosφ = 1

Trip points, alarms

24Vdc (20mA, max.12V)

Trip points, alarms

Isolated 1500V, 0/4...20mA, Rmax = 500Ω, ±10V,
resolution 0,03%, configurable via software,

PV Retransmission, aux input, peak

RS485 / RS232 (max 115200 baud),
protocol MOD BUS RTU / PROFIBUS DP

Isolated 1500V,
5, 10Vdc/200mA o 24Vdc, ±5% 100mA

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11...27Vac/dc ±10%; 100...240Vac/dc ±10%
50/60Hz, 12VA max., internal fuse

IP65

max 2 relay or logic; can be expanded up to
10 relay or logic outputs with MD81.

5A/250V contacts, resistive load cosφ= 1

Trip points, alarms

24Vdc Rout=47Ω (20mA, max.12V)

Trip points, alarms

Isolated RS485 (1200-9600baud), current loop
(1200baud), prot. MODBUS RTU, CENCAL GEFTRAN

10...15V, 100mA max.

11...27Vac/dc ±10%; 100...240Vac/dc ±10%
50/60Hz, 10VA max., internal fuse

IP54 (IP65 with protective cover)

2 inputs from voltage-free contact

Tare zero, reset alarm latches, Hold, Peak

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4 configurable, max5A,250V resistive load cosφ=1

Trip points, alarms

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: Indicators, Alarm Units, Timers, Counters

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Indicators, Alarm Units, Timers, Counters

	 SAL1 LED ammeter instrument	 SAL2 2-channel LED ammeter instrument	 MD8 External units for alarm units
MODEL			
FRONT PANEL DIMENSION	48 x 96mm (1/8 DIN)	48 x 96mm (1/8 DIN)	96 x 48mm (1/8 DIN)
DISPLAY	Indication of current with 20 LED luminous bar	Indication of current with 20 LED luminous bar for each channel	Signaling with 9 red LEDs
OPERATING PRINCIPLE	Analog	Analog	Digital logic
INPUTS	1 input 5, 10, 15Aac direct 10, 15, 25, 40, 60, 100Aac from current transformer	2 inputs 5, 10, 15Aac direct 10, 15, 25, 40, 60, 100Aac from current transformer	Synchronous digital serial line for connection to Gefran instruments
MEASUREMENT SCALES	5 - 10 - 15 - 25 40 - 60 - 100	5 - 10 - 15 - 25 40 - 60 - 100	-
OUTPUTS	-	-	8 relays 5A/250Vac cosφ = 1 or 8 logics PNP 24V/15mA
RESOLUTIONS	1/20 f.s.	1/20 f.s.	-
PRECISION	1/20 f.s.	1/20 f.s.	-
POWER SUPPLY	Does not require a separate power supply Power absorbed at input 2,2VA	Does not require a separate power supply Power absorbed at input 2,2VA	100...240Vac ± 10% 20...27Vac/dc ± 10% 50...60Hz Max. absorbed power 12VA
NOTES	7A switch on resistive load cosφ = 1	nr.2 7A switch on resistive load cosφ = 1	Output expansion units for Gefran instruments: 2400, 2308, 3400, 4400, 3500, 4500
FACEPLATE PROTECTION LEVEL	IP20 (IP65 with protective cover)	IP20 (IP65 with protective cover)	IP54 (IP65 with protective cover)



MODEL

55

Multiscale timer with digital setting

550

Timer Counter

556

Timer counter / Frequency meter

2351

Counter Totalize

FRONT PANEL DIM.

48 x 48mm (1/16 DIN)

48 x 48mm (1/16 DIN)

48 x 48mm (1/16 DIN)

96 x 48mm (1/8 DIN)

DISPLAY

red LED on during timing interval

3-digit display with 14 mm green LEDs

2 x 4 digit display with 10/7 mm green LEDs

6-digit display + 1 with 10/7 mm red LEDs

OPERATING PRINCIPLE

Digital logic

Microprocessor

Microprocessor

Microprocessor

INPUTS

-

2 control inputs NPN configurable

3 control inputs NPN configurable

3 inputs for fast count encoder
4 drive inputs

FULL SCALE TIMES/COUNTS

9.99 sec
99.9 sec
999 sec

Timer:
9.99 sec
99.9 sec
999 sec
9.59 min
9.59 h
Counter:
max 3 digit (999) with multiplication:
1, :2, :10, :100, x2

Timer:
9.999 sec
99.99 sec
999.9 sec
9999 sec
99.99 min
99.99 h
Counter:
max 4 digit (999) with multiplier:
1, :2, :10, :100, x2

Pulse counter
• absolute
• Incremental piece counter

OUTPUTS

2 relays 5A/250Vac cosφ = 1

2 relays 5A/250Vac cosφ = 1

1 relay 5A/250Vac cosφ = 1

4 relays 5A/250Vac cosφ = 1 or logic 50Vdc/50mA open collector

MAX FREQUENCY OF CONTROL INPUTS

-

100Hz

Selectable maximum frequency (with duty cycle 50%)
100Hz, 1KHz, 5KHz

Selectable maximum frequency (with duty cycle 50%)
100KHz, 250Hz for piece counter function

TRIP DELAY

5 msec

max 6 msec

max 6 msec

max 1 msec

DIGITAL COMMUNICATION

-

-

-

Isolated Interface passive Current loop or RS232 or RS485 4-wiresi

SENSOR OR TRANSMITTER POWER SUPPLY

-

-

12Vdc; 30mA

12Vdc, max 200mA

POWER SUPPLY

24/48Vac ±10%
50/60Hz 6VA max
110/220Vac-120/240Vac ±10%
24Vdc ±10%
50/60Hz 3VA max

110/220Vac ±10%
120/240Vac ±10%
24/48Vac ±10%
24Vdc ±10%
50/60Hz 5VA max

110/220Vac ±10%
120/240Vac ±10%
24/48Vac ±10%
24Vdc ±10%
50/60Hz 5VA max

100...240Vac/dc ±10%
20...27Vdc/dc ±10%
50/60Hz 14VA max

NOTES

Setting the scale with preselector

- Quartz time base
- 12 function modes and 9 output functions configurable from keyboard

- Quartz time base
- 6 time scales, 4 types of timer/counter, 4 frequency meter function modes
- 6 output functions configurable from keyboard
- Count sequence is displayed directly in engineering units
- Counts retained in absence of power supply

- 8 different count functions
- 2 msec. max. tripping time
- Mathematical conversion of scale into engineering units
- Configurable inputs/outputs

FACEPLATE PROTECTION LEVEL

IP20 (IP65 with protective cover)

IP54 (IP65 with protective cover)

IP54 (IP65 with protective cover)

IP54 (IP65 with protective cover)

Indicators, Alarm Units, Timers, Counters

...

Applications

Plastic extrusion machines and lines

Melt pressure and temperature, speed

Food plants

Wood and marble working machines

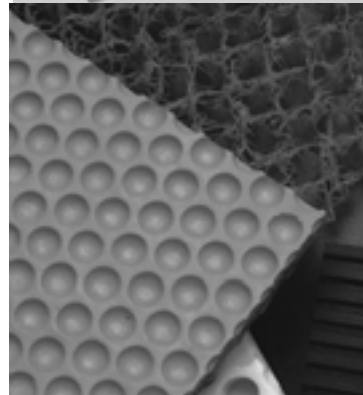
Chemical and pharmaceutical plants

Rolling press lines

Test benches

Weighing systems

Dryers



Notes

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