

## manotherm bv

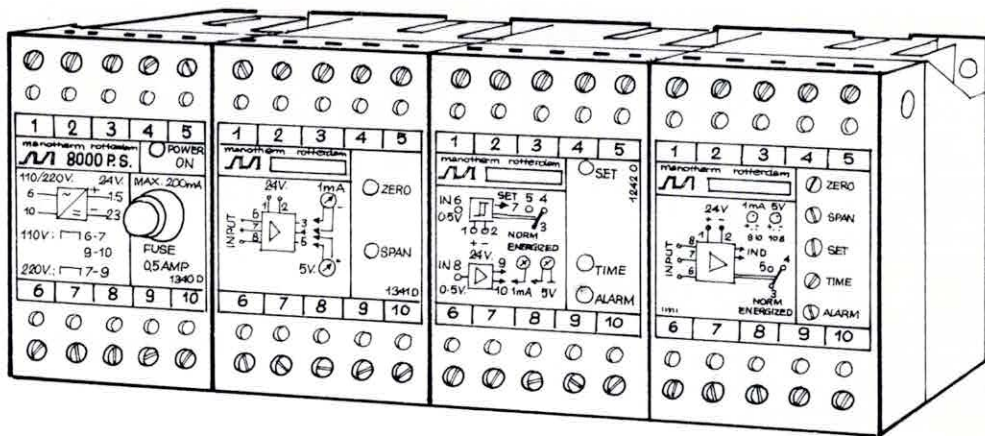
**workshop** welplaathoek 20, 3197 KP botlek rt  
**and offices:** p.o. box 1218, 3000 BE rotterdam

**phone:** 010 - 16 90 11 \*

**telex:** 28604 termo nl

## MEASUREMENT and CONTROL modules

### SERIES 8000



### Typical modules

- Temperature transmitter
- Voltage and Current transmitter
- Universal Interface
- Blind Proportional integrating controller
- Contact output
- Power supply

## Introduction

Low cost modules are suitable for many purposes.

Combination measuring and contact output is possible.

LED indication on contact output modules.

Modules can be connected to an analogue or digital indicator.

Various modules can be supplied from stock or on short notice.

Modules satisfy the requirements of various authorities  
(process industry - Marine - Navy- etc.)

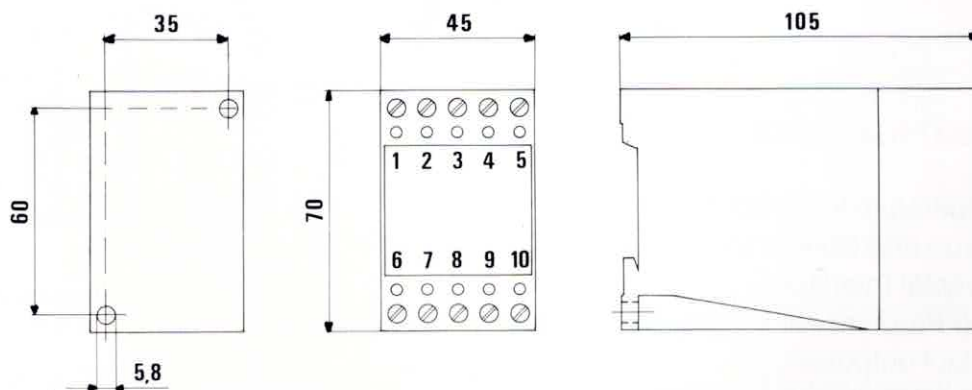
Modules in polyamide boxes and quick mounting system.

## General Standard Specifications

Operating Power	: 24 Volts DC
Max ripple	: 2 Volts p.p.
Voltage tolerance (incl. ripple)	: -20%... +20%
Power consumption	: approx. 1 - 5 VA
Ambient temperature	: -30°C... +70°C
Relative humidity	: 90% R.H. - non condensing
Accuracy	: normally 1%
Contact	: 1 changeover contact(SPDT)
Hysteresis	: 1 ½ %
Time delay	: 0.1 to 5 sec.
Contact rating	: 240 V AC or 24 V DC 1 Amp.
Contact material	: silver, gold flashed
Weight	: approx. 200 grams

## Dimensions

The modules are to be placed on a standard  
35 x 7,3 mm DIN 46277 rail or are screw  
mounted.



dimensions in mm.

## Selection guide

model 80					
<b>Contact output only</b>	0				
<b>Inputs</b>					
- RTD (Pt100 DIN)	1				
- Thermocouple J	4				
- Thermocouple K	5				
- Volts	7				
- Current	8				
- Special	9				
<b>Outputs</b>					
- No contact output	0				
- norm. energ. change over on decrease	1				
- norm. energ. change over on increase	2				
- norm. de-energ. change over on decrease	3				
- norm. de-energ. change over on increase	4				
- P and I mode controller	8				
- Special	9				
<b>Analogue outputs*</b>					
- No analogue output					P
- 0-5 V and 0- 1 mA					R
- 0-5 V and 0-20 mA					S
- 1-5 V and 4-20 mA					T
<b>Ranges RTD</b>					
- -30 -0 + 30°C.					A
- -20 -0 + 100°C.					B
- 0 + 60°C.					D
- 0 + 100°C.					E
- 0 + 150°C.					G
- 0 + 200°C.					H
- Special					X
<b>Ranges thermocouple</b>					
- 0 + 200°C.					L
- 0 + 400°C.					M
- 0 + 600°C.					N
- Special					Y
<b>Ranges Voltage and Current Input</b>					
- 0- 5 V					V
- 0-20 mA					W
- Any up to 200 Volts or 1 Amp					Z

### Options

- Remote setpoint
- Non standard power supply
- Non standard accuracy
- Non listed RTD and thermocouple

### How to order:

Measuring and Contact output Module  
 Input : Pt 100 DIN  
 Output Contact : norm. de-energized change over on increase  
 Output Analogue : 4-20 mA  
 Range : 0-100°C.

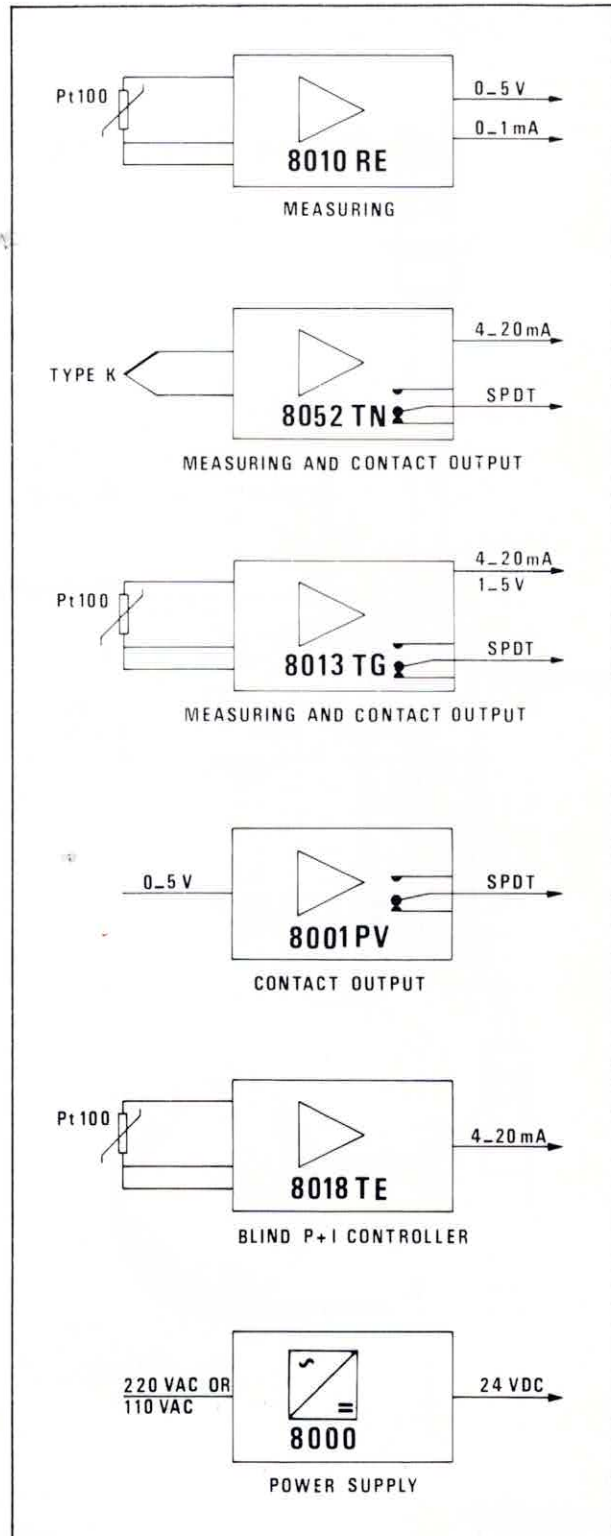
Model: 80 

1	4	T	E
input	output	output	range

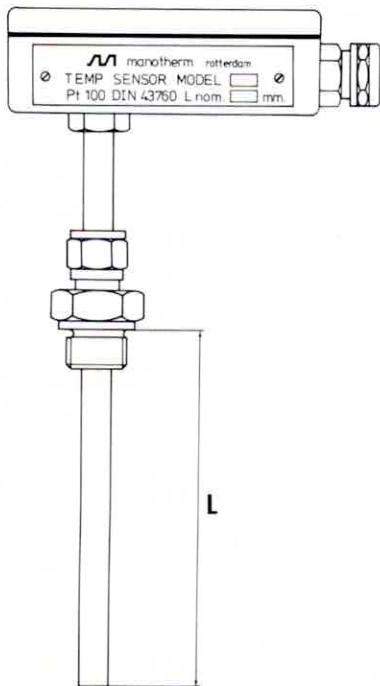
 - (Options)

\* Note: if contact output is used, analogue output can be voltage or current only.

## Typical applications







Example: 62 -

4	D	H	3
length	dual	horiz.	½ inch NPT

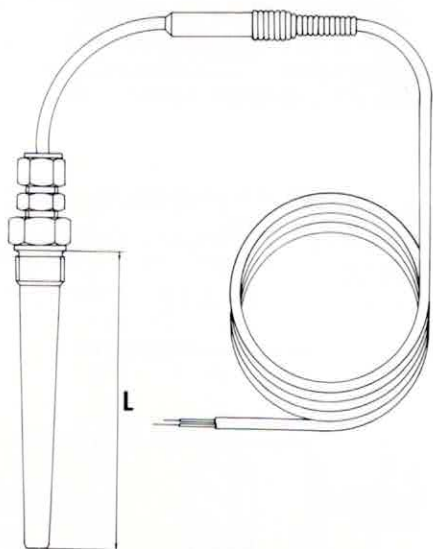
## Resistance Temperature Detector (RTD)

Selection Guide		Model 62 -	
Length L			
Min.	Max.		
50	90	3	
75	140	4	
150	210	5	
240	300	7	
340	400	8	
Single element		S	
Dual element		D	
Junction box horizontal		H	
Junction box vertical		V	
Male connector ½ inch BSP			1
Male connector ¾ inch BSP			2
Male connector ½ inch NPT			3
Male connector ¾ inch NPT			4

### Specification:

Max. 25 Bar  
 Max. 200°C  
 Pt 100 acc. DIN 43760  
 Cable gland Pg 11  
 Housing IP 65  
 Material:  
 Housing cast aluminium  
 Tube 10 mm od. AISI 316  
 Fitting AISI 316

## Thermocouple



Selection Guide		Model 63 -	
Length L	Element length		
100	275	1	
150	375	2	
200	375	3	
250	500	4	
350	500	5	
Single element		S	
Dual element		D	
Type J		J	
Type K		K	
Male connector ½ inch BSP			1
Male connector ¾ inch BSP			2
Male connector ½ inch NPT			3
Male connector ¾ inch NPT			4

### Specification:

Max. 100 Bar  
 Max. 750 °C  
 Length cable 3,5 mtr.  
 Thermowell: AISI 316 solid bored

Example: 63 -

1	S	J	1
insert length	single	type J	½ inch BSP