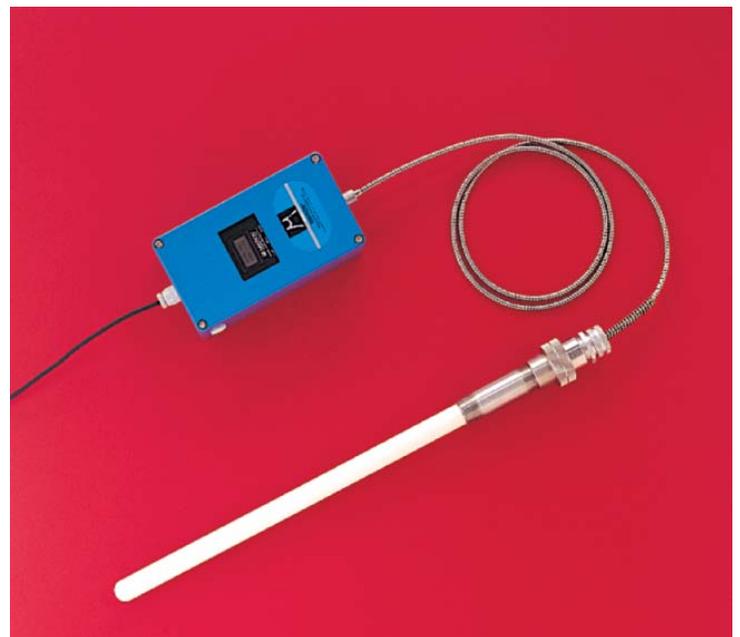


M600

Highly accurate, digital, reliable

Pyrometer with precision optics for non-contact temperature measurement
Temperature ranges between 650 and 5400°F

- ◆ Extremely Long Life Thermocouple alternative
- ◆ Wide temperature span
- ◆ High Accuracy, $\pm 0.25\%$
- ◆ Built in digital temperature display
- ◆ Flexible design allows customizing to match application
- ◆ Housing rating NEMA 1 through 13
- ◆ Output 4-20 mA, 0-1 V, Thermocouple types K, S, R, B, W
- ◆ Field programmable output, span, calibration
- ◆ Precision optics



The **M600 System** is composed of a protective thermowell, infrared lens assembly enclosed in a stainless steel housing, fiber optic cable enclosed in a stainless steel sheath and a temperature transmitter enclosed in a water and dust proof housing.

The M600 uses the bottom of the thermowell as a blackbody target for the infrared lens installed at the other end of the well. The infrared radiation from the bottom of the well is transmitted by the optical fiber to the

detector. A standard output of 4-20 mA, 0-1V, or thermocouple type K, S, R, B, W. (switchable inside the transmitter). can be directly connected to a controller, recorder or computer interface card. This type of installation offers a number of advantages: measurement to 5400°F, no troublesome thermocouple problems, wide temperature span, overcomes the limitation of conventional IR techniques, non-electrical front end for use in hazardous environments.

Typical applications:

- glass melt tanks
- heat treating
- furnaces
- incinerators
- re-heat furnaces
- reformer tubes
- sulfur recovery furnaces
- salt baths
- microwave or RF environment

Specifications:

MIKRON INFRACOUPLE*

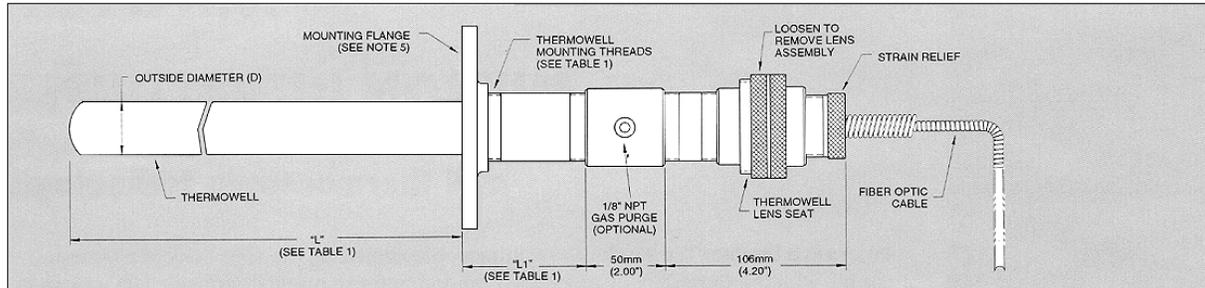


TABLE 1

1524mm	60"	102mm	4"	—	1" NPT
1219mm	48"	76mm	3"	1 1/2" NPT	1" NPT
914mm	36"	76mm	3"	1 1/4" NPT	3/4" NPT
610mm	24"	102mm	4"	1" NPT	3/4" NPT
457mm	18"	76mm	3"	3/4" NPT	1/2" NPT
305mm	12"	76mm	3"	3/4" NPT	1/2" NPT
THERMOWELL LENGTH "L"	LENGTH "L1"	PIPE SIZE S1 (RANGE)	PIPE SIZE S2 (RANGE)		

TEMPERATURE	
RANGE	CODE
350-2000°C 650-3600°F	S1
600-3000°C 1100-5400°F	S2
OTHERS (SPECIFY IN WRITING)	U1

Notes:

1. Glassy carbon -- for non-oxidizing atmosphere only.
2. Maximum available length for zirconium oxide is 840mm (33").
3. Fiber optic cable lengths in shaded area are not available with temperature range S1.
4. Maximum fiber optic length with S2 range is 18m (60").
5. For mounting dimensions, consult factory.

THERMOWELL		
MATERIAL See note 1.	SERVICE TEMP. MAX.	CODE
ALLUMINA (HIGH PURITY)	1950°C 3540°F	AL
SILICON CARBIDE	1650°C 3000°F	SC
GLASSY CARBON	3000°C 5400°F	GG
ZIRCONIUM OXIDE	2100°C 3800°F	ZO
MOLYBDENUM	2200°C 4000°F	MO
INCONEL	1100°C 2000°F	IN
OTHERS (SPECIFY IN WRITING)	—	XX

THERMOWELL			
LENGTH "L" (See note 2.)	OUTSIDE DIA. "D"		CODE
	RANGE S1	RANGE S2	
305mm (12")	19mm (0.75")	12.7mm (0.50")	12
457mm (18")	19mm (0.75")	12.7mm (0.50")	18
610mm (24")	25.4mm (1.00")	19mm (0.75")	24
914mm (36")	31.8mm (1.25")	19mm (0.75")	36
1219mm (48")	38mm (1.50")	25.4mm (1.00")	48
1524mm (60")	—	25.4mm (1.00")	60
OTHERS (SPECIFY IN WRITING)	—	—	XX

FIBER OPTIC CABLE See Note 3.	
LENGTH	CODE
1.8m (6')	06
2.7m (12')	12
5.5m (18')	18
7.3m (24')	24
OTHER (SPECIFY IN WRITING, see note 4)	XX

MODEL M600 — S 1 A L 2 4 0 6

EXAMPLE: The model number at left specifies an infracouple with standard temperature range of 350-2000°C (650-3600°F), alumina thermowell 610mm (24") long and fiber optics cable 1.8m (6") long.

General Specifications

Temperature Display: The alpha numeric display, in addition to indicating temperature with 1° resolution, provides display prompt for field programming of beginning and end of temperature span (in 50°C/°F steps), output selection and calibration procedure.

Accuracy: ±0.25% of reading ±1 digit

Repeatability: ±0.1% of reading ±1 digit

Output: 4-20mA, 0-1 volt all linear. Thermocouple types: K, S, R, B, W, & all cold junction compensated. Outputs are electrically isolated from input power supply. Only one output is available at a given time. All outputs are field selectable. No calibration is required for selecting different outputs.

Power Requirement: 18 to 40VDC (24VDC nominal), 130mADC
Load Resistance: 400 ohms max. for 4-20mA output and 24VDC supply voltage

Operating Ambient Temperature: 0 to 50°C (32 to 122°F)

Storage Ambient Temperature: -60 to 80°C (-75 to 176°F)

Enclosure Material: Aluminum

Enclosure Electrical Rating: NEMA 1 through I3

Weight: 2.0kg (4.4 lbs.)

Dimensions: 120mm W x 220mm L x 80mm D (4.7" x 8.6" x 3.1")

Mounting: 4 holes 6.6mm diameter, surface or wall mountable

Thermowell: For standard materials, length and maximum service temperature refer to selection table above.

Thermowell Mounting Method: NPT or flange type

Fiber Optic Cable Material: Multi strand glass fibers protected by stainless steel flexible sheathing. Minimum radius of bend 50mm (2.0")

Fiber Optics Ambient Temperature: -60 to 315°C (-75 to 600°F)

Optional Accessories:

1. Shut-off ball valve for extra safety in case of thermowell rupture.
2. Integral sealed window assembly for vacuum or pressure applications.
3. Vacuum bushing to allow penetration of fiber optic cable into vessel without loss of vacuum seal.
4. Explosion-proof housing instead of standard enclosure.
5. Water cooled plate to allow M600 electronic enclosure to operate at ambient of up to 80°C (175°F).

Made in U.S.A. The M600 Infracouple is designed and built by Mikron, the leading innovator in infrared thermometry. Manufacturing facility is located in Oakland, N.J.

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Specifications are subject to change without notice