

# Individual Exhaust Gas (T5.4) Thermocouple and Cable System

FOR RETROFIT ON LM2500 AND LM5000 GAS TURBINES

**POWER  
& INDUSTRIAL**

## THERMOCOUPLE

AMETEK's Individual EGT Probe System (AMETEK P/N 8TC34BAG1, GE P/N L44830P01) is designed for retrofit on LM2500 and LM5000 gas turbines. Exhaust gas temperatures are measured using a combination of individual thermocouples mated to a flexible harness assembly, eliminating the need for rigid harness systems. Operators and overhaul facilities can replace a single probe without removing a full harness quadrant or affecting other serviceable system components. This results in lower component and maintenance costs and shorter turbine downtime cycles.

The Individual EGT System incorporates a combination of AMETEK thermocouple designs that are currently qualified and operating on production gas turbines. Its probe design is identical to the design presently operating on production LM2500 and LM5000 turbines, while its junction box is identical to that utilized on other industrial and aerospace turbine thermocouples.

AMETEK can provide either averaging or individual mating cables. The averaging cables mimic the output of the rigid harness system whereas the individual cables provide a separate output for each of the 11 thermocouples. This flexibility enables the operator to select the measurement that best captures turbine performance.

Since October, 1993, AMETEK's Individual Probe Systems have entered field service at numerous operator sites. The system has accumulated over 250,000 hours of trouble-free operation, and it continues to demonstrate the quality and performance of the AMETEK design.



## FEATURES AND BENEFITS

Utilizes AMETEK designs presently operating on LM2500, LM5000, and LM6000 gas turbines.

- Qualified through GE, P/N L44830P01
- Eliminates the need for rigid thermocouple quadrants
- Replacement of single probes results in lower component and maintenance costs and shorter turbine downtime cycles



**AMETEK®**

**POWER  
INSTRUMENTS**

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**SPECIFICATIONS**  
**THERMOCOUPLE PROBE ASSEMBLY**

**Temperature Range**

- - 65° to 1875°F (-54° to 1023°C)

**Accuracy**

- ± 4° to 530°F (2.2° to 277°C);  
0.75% above 530°F (277°C)

**Time Response**

- < 4 sec. for temp. change from 1400°  
to 1500°F (760° to 816°C) at 6 lb./sec./sq.ft.

**Output**

- Type K (millivolts)

**Vibration**

- 12 Gs

**Leakproof**

- Hermetically sealed

**FLEXIBLE CABLE ASSEMBLY**

**Conductor**

- 17 gage thermocouple grade material,  
Type K (+ and -)

**Outer Jacket**

- 34 gage stainless steel braid

**Operating Temperature**

- To 1000°F (538°C)

**Insulation**

- Multi-Layer System:
  - Primary Insulation - Mica Tape
  - Secondary Insulation - Refrasil Braid
  - E Type Fiberglass

