



MMTS

Molten Metal Temperature Systems



- ✦ High intrinsic accuracy
- ✦ Fast response
- ✦ Unique Plateau Detection Technique
- ✦ Wide range of Thermocouples - K, S, R & B
- ✦ Wide choice of outputs
- ✦ Special slag temperature detection technique
- ✦ Multi-station queuing
- ✦ Data logging
- ✦ Portable Battery operated unit for small foundries
- ✦ Built-in audio visual alarm system
- ✦ Memory retention
- ✦ High versatility & ruggedness

DESCRIPTION:

Fykays' Molten Metal Temperature System (MMTS) combine sophisticated electronic design with down-to-earth practical needs of the metallurgist, resulting in a state-of-art, versatile, rugged, reliable electronic system. High standards of technology in software and high quality of hardware design, close tolerance components have resulted in an equipment which can be modestly described as user's dream.

Over the years, Fykays have closely studied the industry's need for close temperature measurement, avoidance of cold heats, excessive skull formation, unnecessary superheats, running stopper rods, hot spots, high energy costs/tonne of metal produced etc. The result is FYKAYS' MMTS.

EQUIPMENT:

FYKAYS offer a wide range to select from:

- ◆ **PORTABLE**, rechargeable battery operated unit suitable for K, S & R types of thermocouple inputs. This has all the basic features such as audio visual

alarm, plateau detection, memory latching etc., as panel mounted instruments. **LOW** battery indication and



auto battery shut-off are provided as a standard feature. 6/12 mm high, 7 segment, 3 1/2 digit LCD/LED display enables clear visibility. Mains operated battery charger is an essential accessory. **IDEAL**, low cost equipment for foundries.

- ◆ **PANEL** mounted, **MICROPROCESSOR** based, rugged, mains operated unit, suitable for not only K, S & R types but also B type thermocouple



inputs. Unique plateau detection technique ensures precise temperature measurement and not approximate as in averaging type of instruments. Built-in audio visual alarm on the instrument as well as field display through relay contacts is on traffic signal pattern.

GREEN : Ready

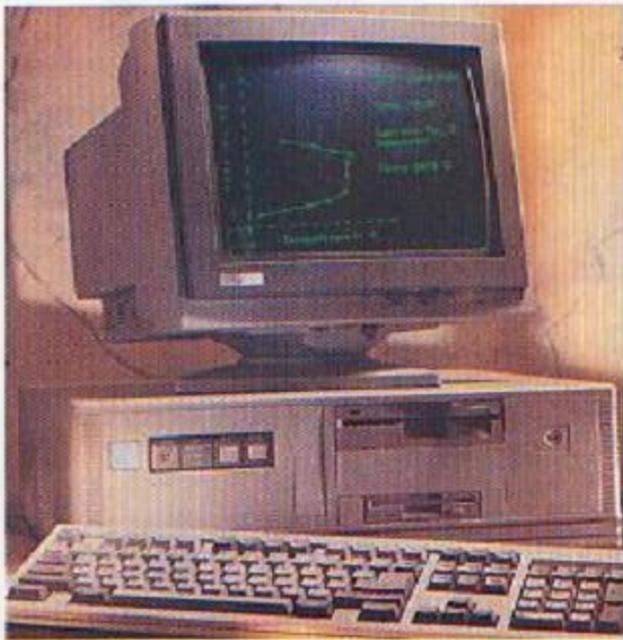
AMBER : Measurement in progress

RED : Over

In addition a second 'Red' lamp signifies 'error' conditions.

Latched temperature continues on display till next reading or the unit is reset. Open sensor indication is provided. Display by means of 25mm high, 7 segment 3 1/2 digit, high intensity LED's ensures good visibility from considerable distances. Protective sheet steel cubicle (wall or floor mounted) and on-line spike buster are essential accessories.

- ◆ **PANEL MOUNTED MICRO COMPUTER** based unit offers sophistication to meet any/all needs. The unit is capable of upto 3 different types of



thermocouple inputs. Choice is field selectable. Display is optional - 12" VDU or 25mm high, 3 1/2 digit 7 segment display. The VDU can, at option, display latched temperature and list all the sample readings or even PLOT the temperature graph. In addition to metal temperature, slag temperature can also be displayed, if so desired. Real time clock is built-in. Printer, large display and multiple outputs are optionally available.

- ◆ MULTI STATION QUEUING system offers the ultimate in large steel melt shops with several measuring stations. A sophisticated, software controlled, versatile system consists of a Master Station and the required number of Remote Station units. Audio visual signal panels are provided at both the Central & Remote stations.

The Central station CPU senses the first station at which the thermocouple cable is plugged in and triggers the signalling system only at that station and blocks all other stations. The central station

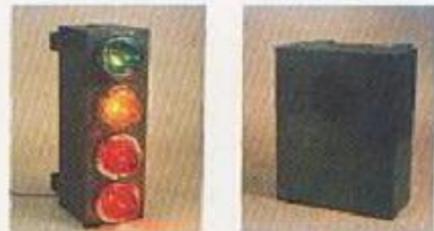
displays the station code which is under use and is freed for use only after the measurement is over or the thermocouple is removed.

Display at the central as well as remote stations is by means of 25mm high, 7 segment, 3 1/2 digit high intensity LED's.

Real Time Clock, Data logging, station indexing are essential accessories.

AUDIO-VISUAL SIGNAL SYSTEM:

- ◆ As the measurement of molten metal temperature is carried out in an extremely short duration, it is very necessary to provide precise guidance to the



operator. For this purpose a visual signaling box consisting of four lamps is provided in traffic signal pattern, GREEN for Ready, AMBER for Measurement in progress, RED for Over, RED for Error. In PC based and queuing systems only three lamps are provided. The RED lamp is steady for over and flashing for error conditions. All lamps are provided with wide angle vision glass domes. The visual signal box is accompanied by an audio signal box consisting of a high dB output klaxon (hooter) thus providing a 100% safety factor for over conditions. Both the visual and audio signal boxes are made of sturdy steel in a dust & vermin proof design, fully wired, suitable for wall mounting.

SPECIFICATIONS:

Portable Units:

Range	: 0-1200°C for K type 1100-1720°C for S or R type
Accuracy	: +/- 0.5% of read value
Resolution	: 1°C
Least count	: 1°C
Cold junction compensation	: +/-0.25°C per 1°C
Ambient range	: -10°C to +45°C
Power supply	: 8 Ni-Cd cells type AA, 1.2V
Battery charger	: 230V, 1 Ph, 50 Hz
Expected battery life when fully charged	: 30-40 sequences
Display	: 12mm high, 7 segment 3 1/2 digit LCD's
Signalling	: Bright LEDs & Peizzo electric buzzer
Dimensions	: 100 x 100 x 125 mm
Weight	: 800 grms (approx.)

Panel Units:

Range	: 0-1200°C for K type 0-1720°C for S and R type 0-1810°C for B type
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Accuracy	: +/- 0.1%
Resolution	: +/- 1°C
Least count	: 1°C (0.1°C optionally)
Cold junction compensation	: +/-0.1°C per 1°C
Ambient range	: -10°C to +45°C
Power supply	: 230V +/-10%, 50Hz, +/-2% 1 Ph AC (110V optional)
Dimensions	: 350W x 200H x 400D
Weight	: Less than 2 kgs.
Display	: 25mm High, 7 segment, 3 1/2 digit LED's
Signalling	: 10mm LED's plus relay contacts (1A, 230V) for field signal box).

Large Display:

Size	: 150mm or 300mm high
Digits	: Twin row high intensity LED's arranged in 7 segment fashion for high level of visibility.
Drive	: By BCD or RS232C i/p from the main instrument
Power supply	: 230V +/- 10% 1 Ph, 50 HZ, +/- 2%
Enclosure	: Sturdy sheet steel construction dust & vermin proof with red perspex facia.

FYKAYS' PRODUCTS:

THERMOTIP ● MINITIP ● ANSPLATIP ● FONDITIP ● DIGITAL PYROMETERS ● CARBOTIP FOR STEELS AND IRONS ● CARBOCOMP ● THERMOXYTIP ● OXYCOMP AUTOMATIC O2 ANALYSER IN STEELS ● METALLIPOPS: SAMPLERS FOR METAL BATH, STREAMS, 2-IN-1, ETC ● INSTAMETER INSTANT CALIBRATOR ● VARIOUS TYPES OF THERMOCOUPLES ● MICOUPLE AND MICAB ● VARIOUS TYPES OF PANEL INSTRUMENTS ● TEMPERATURE CONTROLLERS AND INDICATORS ● IN-SITU OXY PROBES FOR COMBUSTION CONTROL AND HEAT TREATMENT FURNACES REGULATION ● OXYCOMP G - OXYMONITORS FOR COMBUSTION & ATMOSPHERE CONTROL ● AND MANY MORE



fykays
ENGINEERING PRIVATE LTD.

Telephone

+ (91)-(22)-28455968
+ (91)-(22)-28455904
+ (91)-(22)-29451941
+ (91)-(22)-29451922

Mobile

+ (91)-9820862026
+ (91)-9987667969
+ (91)-9820639798

A Wing, Vishal Industrial Estate, 1st & 2nd Floor, Survey No 204/11,
Ghodbunder Village Road, Bhayander East, Thane - 401104, Maharashtra, India