LABFACILITY
TEMPERATURE & PROCESS TECHNOLOGY

Infrared Thermometer

-50 to 750°C

(non-medical)

(Model GM700)

XE-4001-001

Labfacility are the UK's leading manufacturer of Temperature Sensors, Thermocouple Connectors and associated Temperature Instrumentation and stockists of Thermocouple Cables. The Company has been trading since 1971 and is ISO 9001 accredited.

Datasheet

This infrared thermometer is used for measuring the temperature of the object's surface, which is applicable for various hot, hazardous or hard-to-touch objects without contact safely and quickly. These are industrial IR thermometers, so please check the specifications before purchasing. The accuracy of these items makes them unsuitable for medical use.

- Precise non-contact thermometer, highly accurate and reliable.
- Compact size, one-handed design for simple and convenient operation.
- Simply point to an object and read its temperature.
- LED back light design for operation under poor illumination
- With data store recall function and data hold function
- See emissivity table download
- The measure distance is 12:1, this is object distance ratio, it means if the diameter of object tested is 10cm, the distance between thermometer and object is 12 x 10=120cm.
- Applications: hot water pipes, hot engine parts, cooking surfaces, hot tubes insulation, electrical connection, ballasts in electric lights, electric motors, bearings, wine coolers hot asphalt, swimming pools, fish tanks, hot cold food products, heating air conditioning, etc

Datasheet

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Specifications

Model	GM700
General Description	Precise non-contact thermometer, highly accurate and reliable.
Accuracy	0°C - 750°C (32°F - 1382°F) :±1.5°C (±2.7°F) or±1.5% -50°C - 0°C (-58°F - 32°F) :±3°C (±5°F) Whichever is greater
Resolution	0.1°C or 0.1°F
Repeatability	1% of reading or 1°C
Spectral Response	8-14 um
Emissivity	0.95 preset (see below for emissivity chart)
Distance to Spot Size	12:1
Battery	9v
Dimensions	Approx 175 x 100 x 50mm
Function #1	MAX / MIN / AVG / DIF reading
Function #2	high / low temperature alarm setup
Function #3	°C / °F selection
Function #4	laser target pointer ON /OFF selection
Temperature Range	-50 to 750°C
Operating Temperature	0-40°C (32-104°F)
Power Supply	9V Alkaline or NiCd Battery
Important Information	These are industrial IR thermometers

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emissivity table

The accuracy of the following figures is almost impossible to guarantee as the emissivity of a surface will not only alter with regard to texture and colour but also with its actual temperature at the time of measurement. We would recommend, in the first instance, comparing measurements found, with an accurate surface probe or wire probe, and then the Infrared thermometer can be adjusted to match the correct emissivity and used for subsequent measurements.

No responsibility can be assumed by Labfacility Ltd for the accuracy or otherwise of the following figures.

Material	Emissivity
Aluminium: anodised	0.77
Aluminium: polished	0.05
Asbestos: board	0.96
Asbestos: fabric	0.78
Asbestos: paper	0.93
Asbestos: slate	0.96
Brass: highly polished	0.03
Brass: oxidized	0.61
Brick: common	.81-.86
Brick: common, red	0.90
Brick: facing, red	0.92
Brick: fireclay	0.75
Brick: masonry	0.94
Brick: red	0.90

Carbon: candle soot	0.95
Carbon: graphite, filed surface	0.98
Carbon: purified	0.80
Cement:	0.54
Charcoal: powder	0.96
Chipboard: untreated	0.90
Chromium: polished	0.10
Clay: fired	0.91
Concrete	0.92
Concrete: dry	0.95
Concrete: rough	.92-.97
Copper: polished	0.05
Copper: oxidized	0.65
Enamel: lacquer	0.90
Fabric: Hessian, green	0.88
Fabric: Hessian, uncoloured	0.87
Fibreglass	0.75
Fibre board: porous, untreated	0.85
Fibre board: hard, untreated	0.85
Filler: white	0.88

Firebrick	0.68
Formica	0.94
Galvanized Pipe	0.46
Glass	0.92
Glass: chemical ware (partly transparent)	0.97
Glass: frosted	0.96
Glass: frosted	0.70
Glass: polished plate	0.94
Granite: natural surface	0.96
Graphite: powder	0.97
Gravel	0.28
Gypsum	0.08
Hardwood: across grain	0.82
Hardwood: along grain	.68-.73
Ice	0.97
Iron: heavily rusted	.91-.96
Lacquer: bakelite	0.93
Lacquer: dull black	0.97
Lampblack	0.96
Limestone: natural surface	0.96

Mortar	0.87
Mortar: dry	0.94
P.V.C.	.91-.93
Paint: 3M, black velvet coating 9560 series optical black	@1.00
Paint: aluminium	0.45
Paint, oil: average of 16 colours	0.94
Paint: oil, black, flat	0.94
Paint: oil, black, gloss	0.92
Paint: oil, grey, flat	0.97
Paint: oil, grey, gloss	0.94
Paint: oil, various colours	0.94
Paint: plastic, black	0.95
Paint: plastic, white	0.84
Paper: black	0.90
Paper: black, dull	0.94
Paper: black, shiny	0.90
Paper: cardboard box	0.81
Paper: green	0.85
Paper: red	0.76
Paper: white	0.68

Paper: white bond	0.93
Paper: yellow	0.72
Paper: tar	0.92
Pipes: glazed	0.83
Plaster	.86-.90
Plaster: rough coat	0.91
Plasterboard: untreated	0.90
Plastic: acrylic, clear	0.94
Plastic: black	0.95
Plastic: white	0.84
Plastic paper: red	0.94
Plastic paper: white	0.84
Plexiglass: Perpex	0.86
Plywood	.83-.98
Plywood: commercial, smooth finish, dry	0.82
Plywood: untreated	0.83
Polypropylene	0.97
Porcelain: glazed	0.92
Quartz	0.93
Redwood: wrought, untreated	0.83

Redwood: unwrought, untreated	0.84
Rubber	0.95
Rubber: stopper, black	0.97
Sand	0.90
Skin, human	0.98
Snow	0.80
Soil: dry	0.92
Soil: frozen	0.93
Soil: saturated with water	0.95
Stainless Steel	0.59
Stainless Plate	0.34
Steel: galvanized	0.28
Steel: rolled freshly	0.24
Styrofoam: insulation	0.60
Tape: electrical, insulating, black	0.97
Tape: masking	0.92
Tile: floor, asbestos	0.94
Tile: glazed	0.94
Tin: burnished	0.05
Tin: commercial tin-plated sheet iron	0.06

Varnish: flat	0.93
Wallpaper: slight pattern, light grey	0.85
Wallpaper: slight pattern, red	0.90
Water:	0.95
Water: distilled	0.95
Water: ice, smooth	0.96
Water: frost crystals	0.98
Water: snow	0.85
Wood: planed	0.90
Wood: panelling, light finish	0.87
Wood: spruce, polished, dray	0.86