maselli
PROCESS ANALYZERS

TECHNICAL DATASHEET n. 90034H1283

DIGITAL LABORATORY REFRACTOMETER mod. LR02

OPERATIVE SPECIFICATIONS	
Application:	Measurement of liquid products in laboratories in the Food, Chemicals, Textile, Petrochemical industries, wineries, etc.
Measurement type:	Refractometric measurement in laboratory of the Refraction Index and display in the selected scale of the relative concentration with automatic temperature compensation
Measurement limits:	1.3300...1.5318 nD 0...95 Brix (Standard Version) 1.3300...1.5177 nD 0...90 Brix (HA Version)
Accuracy:	***Standard Accuracy Version:*** (1.3300...1.3811 nD): ±0.00007 nD (0...30 Brix): ±0.05 Brix (>1.3811...1.5318 nD): ±0.00014 nD (>30...95 Brix): ±0.1 Brix ***High Accuracy Version:*** (1.3300...1.5177 nD): ±0.00004 nD (0...90 Brix): ±0.03 Brix
Measurement scales	N° 5 measurement scales selectable from the keypad: nD. BRIX; the "BRIX" scales refers to the nD/Bx ICUMSA (1974) conversion tables. HFCS42 and HFCS55 with adjustable Zero value. N°1 "USER" scales totally configurable from the keypad.
Product temperature:	5...45 °C with automatic compensation of measured temperature by means of ceramic "Pt1000" sensor, Class "B" according to IEC751; compensation for "User" scale ranges refers to the values set on the utility software
Quantity of analyzed sample:	~3 cc for analysis

GENERAL SPECIFICATIONS	
Supplies	***LR02:*** DC 5...7.5V 2.5W Connection to external power supplier via 4-pin male circular connector. ***Power supply:*** AC input 115/230V ±10% 50...60Hz, DC output 7.5V 420mA Connection via cable with SP7748 (EEC-7) 10A/250V plug for EC versions and with P620 15A/125V plug for US versions. ***Batteries:*** Battery case (optional) for 5x1.5V type AA alkaline batteries or 5x1.2V 2000mAh Ni-MH rechargeable batteries
Interfaces	***Serial:*** RS232 for connection to a PC or Printer; connection via male 9-pin D-connector

CONSTRUCTION FEATURES	
Execution:	One-piece 304 AISI stainless steel enclosure
Measure section:	Synthetic sapphire measurement prism. Electronically compensated LED light source. CCD sensor element. Internal Pt1000 temperature sensor. Analysis bowl in 316 AISI stainless steel, with cover and cover position sensor.
Notes:	The optical section of the unit is dehumidified by means of a molecular sieve desiccant cartridge
Electronic section:	Microprocessor CPU. Measurement readings, program menus and error messages presented on a 128x64 point backlit graphic LCD display with "LCD Saving" function. Moulded keypad in scratchproof polyester with dome keys. Automatic zero calibration. Temperature readings in °C or in °F.

	Overcurrent protection with 5x20 mm fuse.
Product contact materials:	Analysis bowl in 316 AISI stainless steel. Synthetic sapphire measurement prism. PTFE gasket.
Dimensions and weight:	164 (w) x 149.5 (h) x 295 (d) 6 kg
Accessories:	Graphic or continuous reel printer. Battery charger set for Ni-MH rechargeable batteries.

TECHNICAL SPECIFICATIONS AND STANDARDS	
Ambient characteristics	***Temperature limits:*** Ambient: 5…45 °C Storage: -20…+50 °C ***Humidity limits:*** Ambient: 5%...95% (U.R. non-condensing) Storage: 5%...95% (U.R. non-condensing) ***Altitude limits:*** <2000 m a.s.l. ***Pollution category:*** "2" to IEC664 ***Protection category:*** IP65 to EN60529
Conformity to Directives:	EMC: 2014/30/EU WEEE: 2012/19/EU CE mark shows conformity to listed EU Directives