

UR 20

REFRACTOMETER FOR ON LINE ANALYSIS OF CONCENTRATION

The microprocessor-based model UR20 digital refractometer is a self-contained analyzer with multiple functions which mounts directly on the process line. It continuously measures the concentration, displays the temperature-compensated concentration value, and transmits the value to both digital and analog remote receivers.

The UR20's unique state-of-the-art design incorporates many modern refinements such as:

- Abrasion resistant sapphire prism
- Long life LED light source
- High resolution CCD digital optical sensor

The instrument's membrane faceplate contains a liquid crystal digital display and input keypad.

From the keypad it is possible to personalize the instrument's mA output signal.

The instrument also has an RS422/RS485 serial output for optional remote display or computer interface.

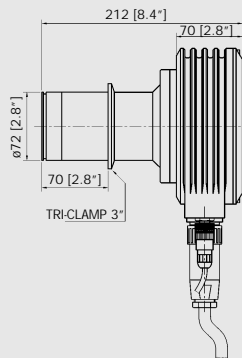
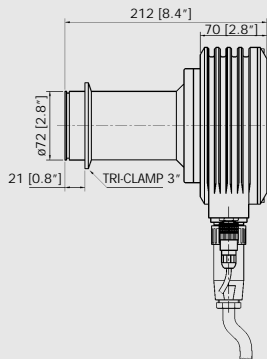
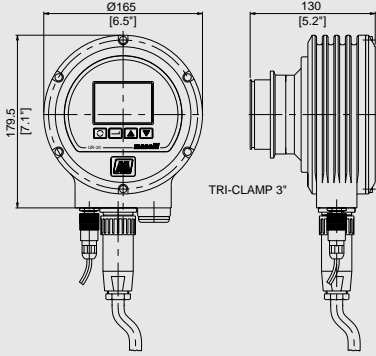
A special Maselli adapter conveniently mounts the UR20 onto a process line or the side wall of a tank.



maselli **M** **INC.**
measurements

TECHNICAL SPECIFICATIONS

Overall dimensions



Maselli Measurements, Inc.

7746 Lorraine Avenue, Suite 201
Stockton, California 95210 USA
Tel. (209) 474-9178
Toll Free USA Only (800) 964-9600
Fax. (209) 474-9241



UR20 ST - Standard Version

Measurement limits:

1.3330 to 1.5318 nD (0 to 95 Brix)

Scale amplitude and accuracy:

- Min. 0.0482 nD (30 Bx)
- Max 0.1988 nD (95 Bx)
- Accuracy $\pm 0.5\%$ of the scale amplitude
- Max accuracy ± 0.0002 nD (± 0.15 Bx)
- Resolution: 0.1

UR20 HA - High Accuracy

Measurement limits:

1.3330 to 1.5318 nD (0 to 95 Brix)

Scale amplitude and accuracy:

- Min. 0.0227 nD (15 Bx)
- Max 0.1988 nD (95 Bx)
- Accuracy $\pm 0.3\%$ of the scale amplitude
- Max accuracy ± 0.00007 nD (± 0.05 Bx)
- Resolution: 0.01

General features

Measurement Ranges:

- Brix or User Range on request

Temperature Compensation:

- Automatic over the range -5 to +105° C (23 to 221° F)
- +140° C (23 to 284° F) on request
- ICUMSA correction tables (1974) for the standard Brix range
- With specific tables for User range

Output Signals:

(electrically isolated)

- Analog:
0-20/4-20 mA (max. load 470 Ohm)
- Digital:
RS422/RS485

Power Supply:

- AC 18V (12-24V) 50-60 Hz 0.6A
- DC 24V (18-36V) 0.6A
- AC 115/230V $\pm 10\%$ with external power supply on request

In/Out:

- Hold measure input
- Alarm output (dry relay contacts)

Accessories:

- In-line mounting fitting for various tubing sizes
- Adapter flanges for tank side-wall mounting

Construction Characteristics

Prism material:

- Synthetic sapphire or optical glass

Light Source:

- High efficiency LED (Light Emitting Diode)

Measurement Element:

- CCD (Charged Coupled Device)

Temperature Measurement:

- External 100 Ohm RTD sensor
- Internal sensor on request

Input Keypad:

- Polyester membrane keypad

Display:

- Graphic LCD 128x64

Construction:

- Aluminium, AISI 316 and peek
- IP65 protection
- 3A on request

Weight:

- 3 Kg (7 lb.)

Materials in contact with the process fluid:

- Synthetic sapphire or optical glass
- AISI 316 stainless steel
- Viton (others on request)

Fluid Operating Limits:

Temperature:

- from -5 to 105° C (23 to 230° F)
- +140° C (23 to 284° F) on request

Pressure:

- from -1 to 10 bar at 20° C
- from -1 to 8 bar at 100° C

