

## ⇒ Highlights

- Precision 24-bit A/D conversion and digital signal processing
- Continuous voltage and current ranges with auto-range functionality
- Fully programmable impulse output assignable to various quantities or constant frequency
- Direct meter testing possibility (with supplied accessories)
- Rack mountable with 2U form factor
- Current measurement up to 120 A
- Programmable meter constant
- Display and keypad
- Class 0.1



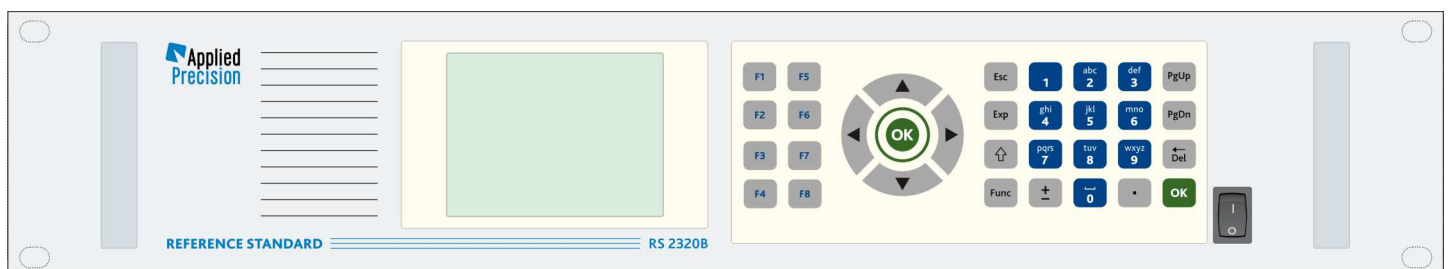
## ⇒ Description

The **Reference Standard RS 2x20B** is single-phase (RS 2120B) and three-phase (RS 2320B) version of precision meter for electrical power and energy measurement. The Reference Standard is designed to meet all requirements put on a reference standard in a single- and three-phase electricity meter testing and calibration systems. The Reference Standard can be set to any real or artificial mode of operation in three phase system and is capable to evaluate the individual quantities per phase and the three-phase cumulative quantities as well.

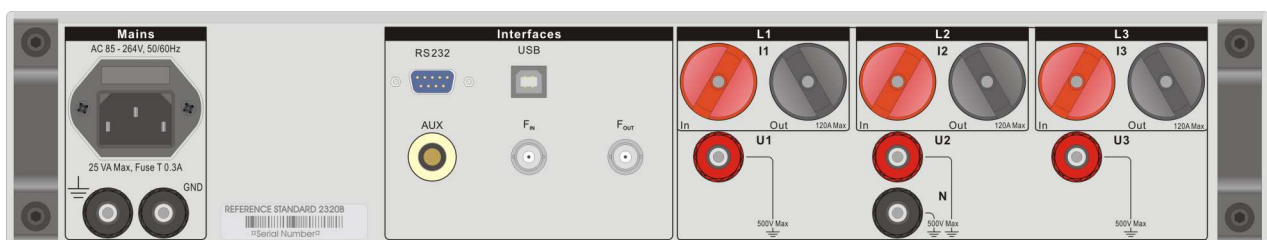
Reference Standard is based on precision 24-bit A/D conversion and digital signal processing technology enabling accurate evaluation of all main and informative quantities. Beyond measurement of all kinds of power, voltage, current and phase, the meter measures the harmonic content and distortion of the input signals.

The meter constant of Reference Standard generating value-proportional impulses on the frequency output is freely programmable and can be assigned to various quantities or set to generate any precise constant frequency for testing purposes.

The Reference Standard RS 2320B is equipped with three fully independent differential voltage input circuits. Therefore the meter can be configured to evaluate signals on three independent channels. This feature in combination with possibility to assign the impulse outputs to any combination of the input channels enables to use the device for example in single-phase system with one channel as reference while the free channels can monitor additional information like power consumption of the current and voltage circuits or contact error in the test circuit.



Front panel of RS 2320



Rear panel of RS 2320

## ⇒ Available Models

Model	Phases	Class
RS 2120B	1	0.1
RS 2320B	3	0.1

## ⇒ Technical Specification

Basic Error	
Voltage & Current	0.05 %
Apparent Power	0.1 %
Active Power *	0.1 %
Reactive Power *	0.2 %
Power Factor	0.002
Frequency	0.01 Hz
Distortion	0.5 %
Phase angle	0.1 °

\* related to the Apparent Power

General Parameters	
Measured Quantities	Voltage, Current, Active/Reactive/Apparent Power, Active/Reactive/Apparent Energy, Power Factor, Phase Angle, Frequency, Distortion
Basic Frequency	40 .. 70 Hz
Input Circuits	1-phase 2-wire (RS 2120 & RS 2320) 1-phase 3-wire and 2-phase (RS 2320 only) 3-phase 3-wire / 4-wire (RS 2320 only)
Voltage Range	1 .. 500 V (phase to neutral)
Current Range	1 mA .. 120 A
Power Factor Range	-1 .. 0 .. 1
Phase Angle	0 .. 360 °
Communication Interface	USB and RS-232 (SCPI compatible communication protocol)
Meter Testing	direct testing of inductive or electronic meters or reference standards
Display	3.5" / 320 x 240 pixels / 256 colors
Dimensions (W x D x H)	490 x 490 x 90 mm (2U form factor)
Weight (approx.)	9.5 kg (RS 2120) 10.5 kg (RS 2320)

Impulse Output	
Number of impulse outputs	1
Impulses assigned to	Active / Reactive / Apparent Energy or programmable constant frequency
Meter constant	programmable
Maximal impulse frequency	70 kHz

## ⇒ Options / Accessories

● ... standard \* / ○ ... optional / – ... not available

Code	Description	RS 2120B	RS 2320B
RSCS 1100	Single - Phase Cable Set	●	–
RSCS 1300	Three - Phase Cable Set	–	●
OPFC 1000	Fixing Clamp for Optical Sensor	●	●
OPTS 2100	Optical Sensor	●	●
WSSC 2000	Optical Sensor Cable	●	●
WSII 2000	Impulse Input Base	○	○
WSSS 2000	Snap Switch	○	○
OPTI 2000	Impulse (SO) Cable	○	○

\* Standard accessories defined for devices sold apart of Power Source