Universal hand-held tachometer for mobile use
Series C118

Tachometer C118 + cable SAK-2m + sensor A1S30P95

KEY FEATURES

- Signal Frequency 0 Hz…100 kHz
- Reading /min or /sec or other unit
- 6 digit LCD Display (10 mm)
- Universal Signal Input for all BRAUN sensors and wheel pulse transmitters
- 1 Analog Output 0…4 V
- 1 TTL Pulse Output
- RS232 Data Interface (optional)
- Power Supply by battery, cell or mains

BENEFITS

- Fast, flexible and easy handling
- Easy adjustment to the application due to mobile use
- Sensors to directly plug-in or via flexible extension cable

Ideally suited to quickly perform speed checks

The BRAUN C118 hand-held tachometer is used for a quickly performed speed check, and for longer term studies as well. For inspection and maintenance, to optimize and adjust drives, at rolls, spindles and other objects. At paper, textile and foil applications.

The C118 tachometer can handle up to 1 million RPM (0 Hz…100 kHz). Its 6 digit LCD display is reading speed by selectable units /min or /sec or other unit.
The operation mode can be selected by a push-button between straight tachometer function and use of incorporated programmable computing facilities.
Its signal input is universally designed and fits for BRAUN sensors and wheel pulse transmitters.
The analog output 0…4 V is short circuit protected with source impedance of 100 ohms.
Its TTL pulse output (5 V) is square wave shaped, with its sequence repeating the input.

The C118 tachometer is fast and easy to handle and due to its mobile use very easy to adjust to the required application. All sensors can be connected directly via plug-in or via flexible extension cable.

Specifications of C118 (standard version)

Measuring Principle	Pulse distance measurement with automatically extended number of periods, as determined by a programmable minimum measuring time allowance. Accuracy: ±0.05% of value ±1 in last digit Range: 0 Hz…100 kHz signal frequency
Modes of Operation	Push-button selection between: FIX = straight tachometer function and VAR = use of incorporated programmable computing facilities
Computing Facility	Computing facility to convert measurements into other variables: 6 digits programmable conversion factor, multiplying or dividing, representing a roll circumference, or gear ratio, or transmitter factor, for instance.
Display	6 digits with LCD figures, 10 mm high with selection to …/sec, …/min, …/h, or to controlled event totalizing. Decimals fixed or programmable. MAX, MIN and average memory, for a controlled period.
Memory	Maximum, Minimum, Average, over a controllable period of time. Call to display by push-buttons.
Signal Input	To pulses or AC voltage from 50 mV$_{eff}$ up to 60 V Selection of automatic response characteristics Sensor supply 5 V / max. 60 mA
Analog Output	0…4 V, short circuit protected. Source impedance 100 ohms. Linearly related to display. Range: High and low end of span programmable Resolution: 12 bit (1 : 4096)
Pulse Output	Square wave shaped, with its sequence repeating the input. 5 V TTL-level.
Data Interface	RS232 via cable L3D01
Power Supply	Inserted batteries (4x MN1500) or as options Rechargeable cells (IECR6) or Supply unit (U1H008) from mains 100…250 Vac. Its output cable (adapter) fits a jack at the C118.
Operating Conditions	Ambient temperature: -10…+55 °C (14…130 °F) Relative humidity max. 95%, non-condensing
Design	Plastic enclosure with battery case underneath. Dimensions enclosure: Length 195 mm, width 100 mm, height 40 mm Protection Grade: IP 54 Weight (with batteries): approx. 0.5 kg
Optional Accessories	**MN1500x4:** Set of (not-rechargeable) batteries **U1H008:** Power Supply Unit to feed the C118 immediately from mains (100…250 Vac) **IECR6:** Set of rechargeable cells in place of batteries **U1H009:** Charger to IECR6 from 230 Vac **U1H014:** Coaxial cable to one output of C118, 3m length, both ends BNC connectors (male) **U1A006/10:** High reflection marking tape (bag of 10 pieces) **U1A006/1:** High reflection marking tape (roll of 4,5 m length) **U9A001:** Magnet based adjustable sensor clamp **L3D01:** RS232 plug-in adapter cable, with 9-pole Sub-D (female) plug to PC

Sensors for special requirements

Besides the optoelectronic sensor (A1S30P95), which is part of the standard equipment, there are others available, recommended for specific applications. For their data, see under Sensors, as listed below:

Optosensor series A1S30 and A1S36

Serving the majority of applications with smooth or profiled targets: a dot of paint on a shaft is adequate to start measurements. Likewise, a fan blade, a screw head, a slot or cam will do. Function does not depend on the target material, there being no load or reaction to the object. Available with shaft length of 35 or 95 mm (standard). A1S30 has plug in socket, A1S36 tightly attached cable.

Laser type sensor A1S37P

Detects a target from a distance up to 2 m. Further, its beam may pass a narrow opening. Requires the U1A006 reflection tape to mark the target with.

Differential Hall-Effect type sensors A5S07…P

For heavy duty sensing conditions. Accepting fine and coarse profiles, as gear wheels, slots, cams, holes in any ferrous material. Or, permanent magnets applied to the target.

Magnetic pick-up series A2S04…P

Detecting an alternating magnetic field, as around an electric motor, transformer or coil.

Wheel pulse transmitters

Run by twin wheels on a web or roll surface, to transmit speed or length. Resolution 1000 pulses/meter. Version A1L04B200 with speed range 0…1200 m/min, A1L05B500-5V for 0…3000 m/min. Both use cable L3A25BP, available with any length.

Input / Output cables for special applications

Connecting the C118 outputs to further evaluation

Connecting alternatively either the analog output or the pulse output. Ready made coaxial cable fitting the one or the other output. With BNC connectors (male) at both ends, cable length 3 meters.

Extra Ordering No.: U1H014

Alternatives to supply the C118 tachometer

Rechargeable Cells

In place of the standard batteries, a set of 4 rechargeable cells is available.

Extra Ordering No.: IECR6

Charger Unit

Separate charger unit, accepting the 4 cells, supply by AC-mains.

Extra Ordering No.: U1H009

Power Supply Unit

With lasting measurements, the C118 may be supplied by AC mains 100…250 V directly, via adapter U1H008. Its output cable fits a jack at the C118 (any version).

Extra Ordering No.: U1H008

Ordering Information

Different kits to cover various applications

C118BS
Standard equipment, suitable for the majority of applications,
with battery-powered tachometer C118, optosensor A1S30P95, plug-in connector cable SAK-2m,
marking aids, carrying case.

C118.1BS
Same as C118BS, tachometer additionally equipped with RS232 data interface transmitting
measurements, permanently or on request, RS232 plug-in adapter cable L3D01.

C118.2BS
Same as C118BS, tachometer additionally equipped with manually adjustable preset of input
sensitivity. Useful at low speed < 100 RPM.

C118.3BS
Same as C118.2BS, tachometer additionally equipped with RS232 data interface transmitting
measurements, permanently or on request, RS232 plug-in adapter cable L3D01.

C118.2BP
Same as C118.2BS, but high efficiency sensor A1S36P95 with 5m firmly attached cable, in
place of A1S30P95 and connector cable SAK-2m.

C118.3BP
Same as C118.2BP, tachometer additionally equipped with RS232 data interface transmitting
measurements, permanently or on request, RS232 plug-in adapter cable L3D01.

Note
All kit versions come with battery powered tachometer.
For other supply, if required, add the extra Ordering No. as listed.

BRAUN – Speed Monitoring and Protection Systems for Rotating Equipment

BRAUN is a worldwide leading supplier of protection systems for rotating equipment in industrial applications that require the highest standards of safety and availability.
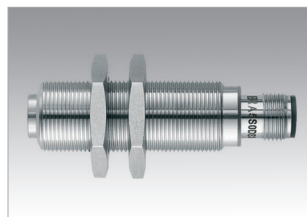
For more than 50 years BRAUN systems have been protecting the facilities of the world's leading companies within the power generation, oil, gas and chemical industries. BRAUN Protection Systems have been installed in over 100 countries worldwide, especially in those areas where rotational equipment safety is of the highest priority.

Our solutions comprise a variety of products for the detection, reporting and monitoring of speed and related parameters. Always matching the requirement. Always the perfect solution for safety and availability.

PROTECTION SYSTEMS   **SPEED SENSORS**   **TACHOMETERS**   **PORTABLE TACHOMETERS**