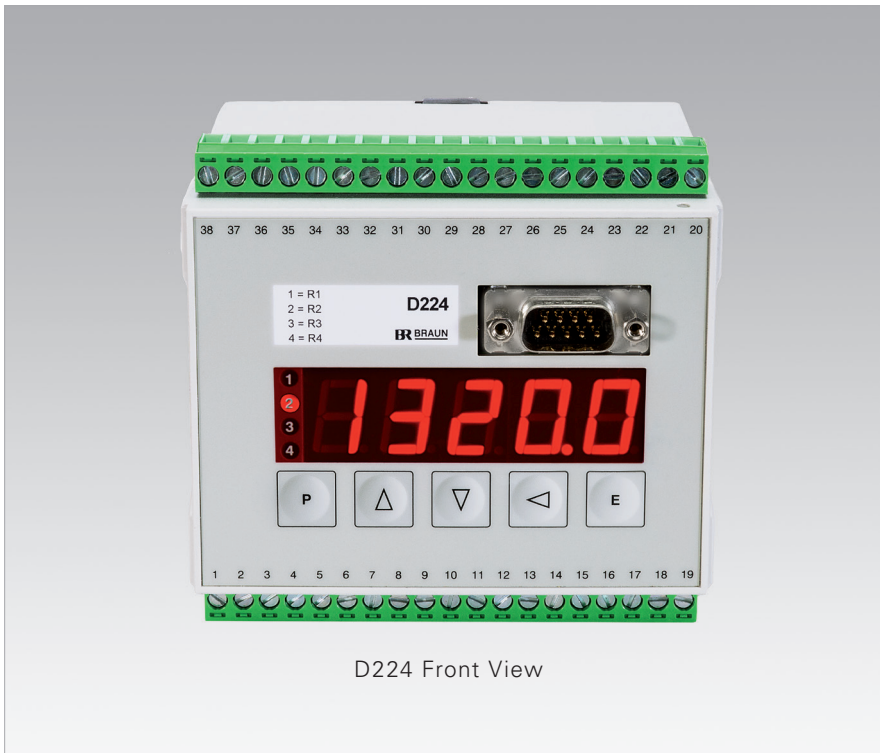


Monitor for Measurement of Speed and Detection of Direction

Series D224.xxS2



D224 Front View

Fast, precise and safe – from zero motion to highest speed

The BRAUN Speed and Direction Monitor Series D224.xxS2 simultaneously measures one speed value and the direction of speed with fault indication. The signal input is especially designed for our proven Differential-Hall-Effect based A5S speed sensors with speed and direction signal (A5S...3) or two phase shifted speed signals (A5S...4).

Display, setpoints and analog output may be adjusted to any speed. During its lifetime cycle the monitor is completely maintenance-free.

KEY FEATURES

- Speed and Direction Monitor with sensor monitoring and self-test function
- Frequency range 0 Hz...100 kHz
- 1 Analog Output 0/4...20 mA
- Bright red digital LED display
- 4 Alarm Outputs via relay contacts
- Signal Input for A5S sensors with speed and direction signal or two phase shifted speed signals
- RS232 Data Interface for version D224.11S2
- PROFIBUS Data Interface for version D224.12S2
- Universal supply range 20...265 V_{uc}

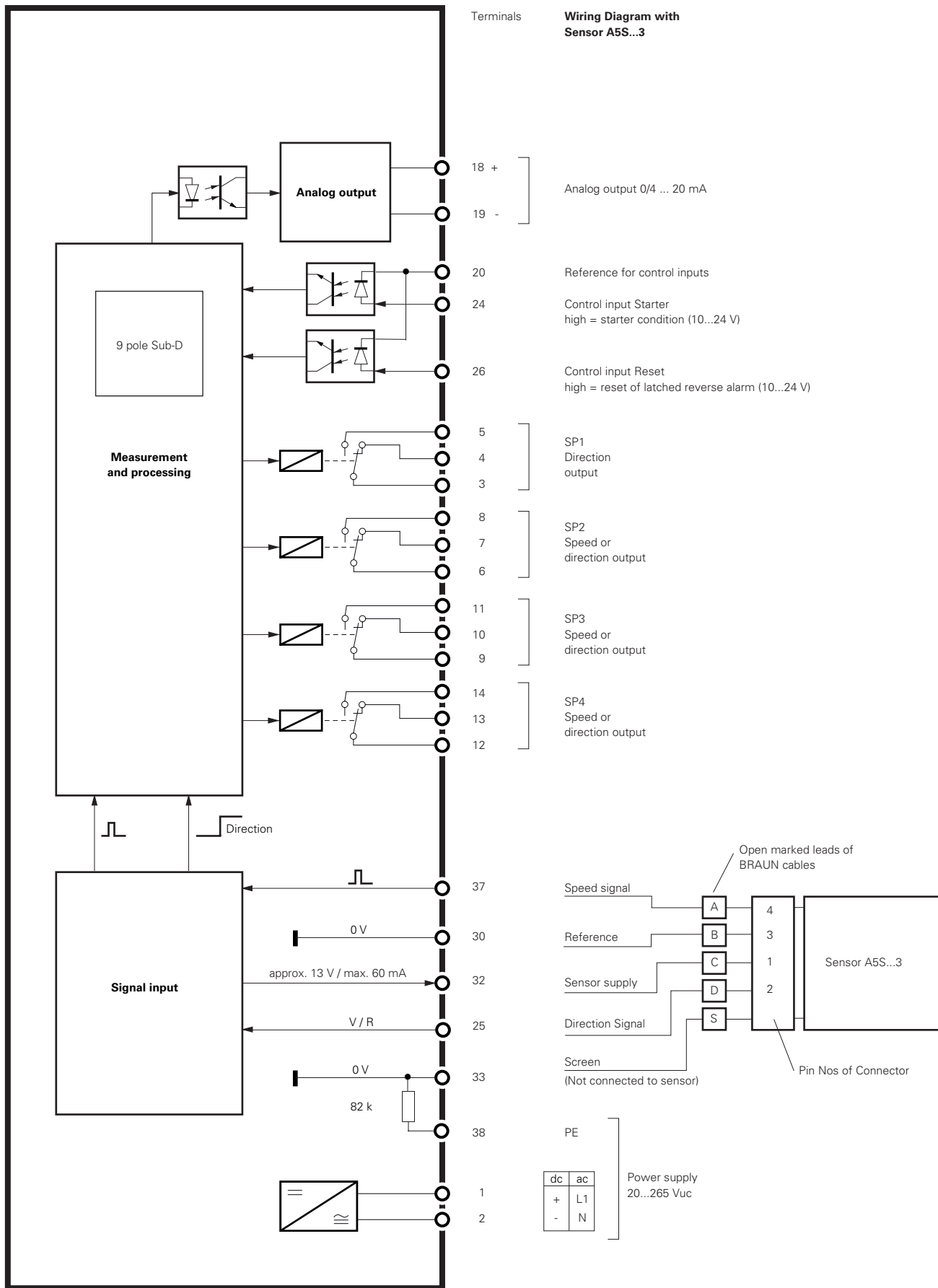
BENEFITS

- Fast, precise and safe
- Maintenance-free during Lifetime, therefore minimized TCO
- Rapid and accurate response through period measurement

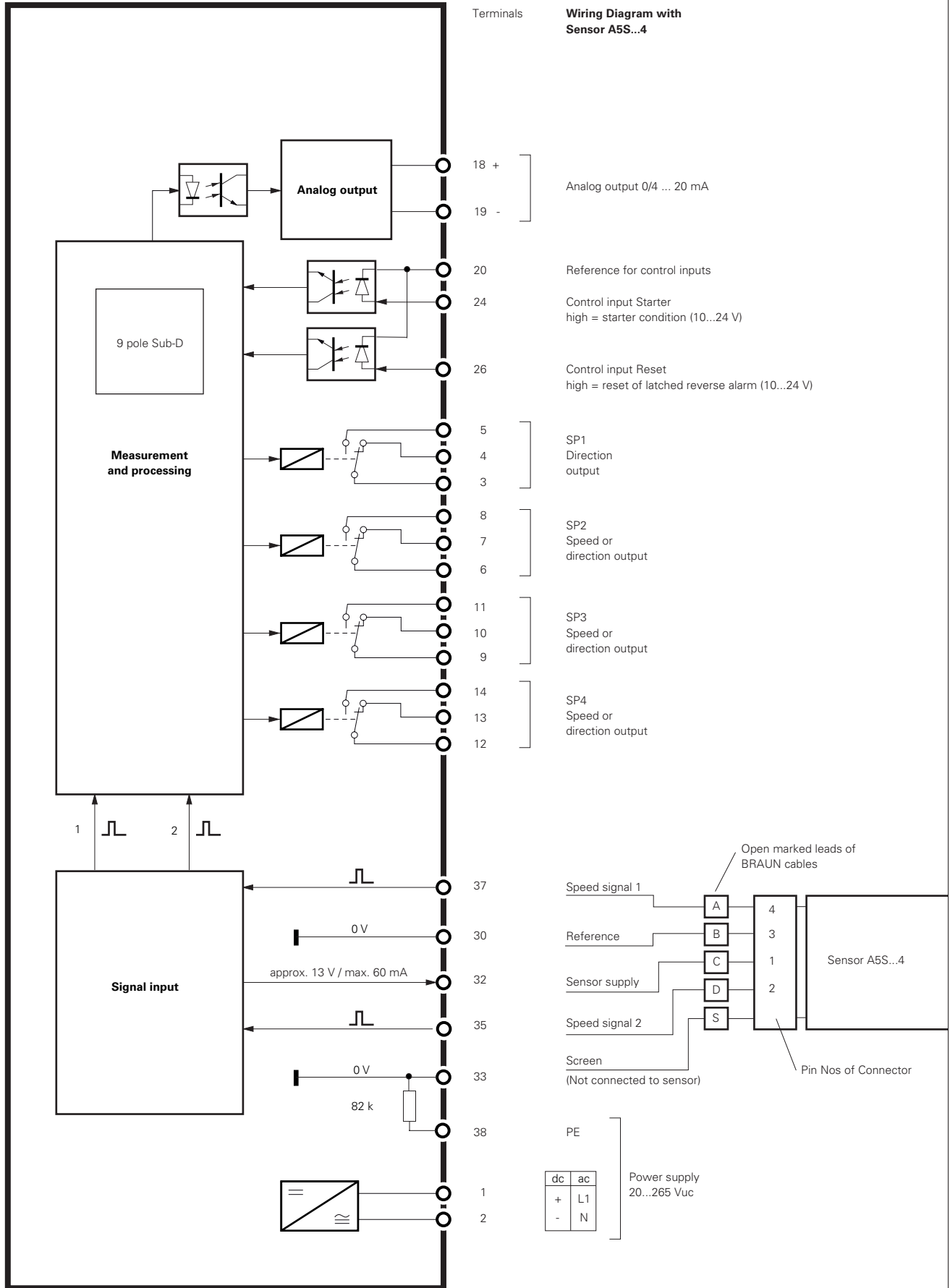
Specifications of D224.xxS2

Compatibility to Standards	2014/30/EU, EN IEC 61000-6-4, EN IEC 61326-3-1 2014/35/EU, EN IEC 61010-1
Measuring Principle	Frequency measurement, based on the input pulse distance, extended over a minimum period of time, programmable 5 milliseconds...9.999 seconds.
Accuracy	±0.005% of value ±1 in last digit
Response	1 input pulse interval + programmed minimum time + 5 milliseconds
Analog Output	Isolated and protected against external short circuit. Current 0/4...20 mA with max. load of 500 ohms
Range	High and low end of span programmable
Resolution	12 bit (1 : 4096)
Drift by temperature	<0.01% within 0...40 °C (32...104 °F)
Long term stability	<0.25% during 5000 hours of operation
Setpoint Alarms	Four individual setpoints control an own relay output, each with SPDT contacts.
Setpoints adjustment	Individually programmable from zero speed up to any high speed or to direction alarm
Response characteristics	Hysteresis individually programmable in its position and width
Handling capacity	Relay contacts 250 V, 2 A, 100 W AC
Alarm state position	Individually programmable for excess, no power and input failure condition, starter period
Starter function	Released by external control signal (12...24 V) to isolated input. Extension programmable up to 999 sec.
Display	5 digits with red LED figures, 15 mm high Indicating the variable during operation, parameters during the programming phase
Data Interface	RS232 at front socket (Baud rate programmable, up to 38400 baud) for version D224.11 PROFIBUS at front socket (Baud rate automatic) for version D224.12
Data output	Measurements and signals state, upon request
Data input	Programming the parameters (equipment required see below)
Programming	Manually by front keys, alternatively via RS232 (equipment required see below)
Data protection	Parameters safe-guarded against power failure and code protected against unauthorized access
Signal Input	Isolated circuit
Frequency range	0 Hz...100 kHz
Signal level range	Fitting A5S sensors
Input impedance	100 kohms
Scaling factor	Programmable by 5 digits, considering any relation to the variable
Suitable sensor types	All A5S sensors with speed and direction signal or two phase shifted speed signals
Sensor failure monitoring	Short-circuit or interrupt of supply, signal lead break. A detected failure sets any of the alarms into a pre-programmable state.
Sensor supply	Approx. 13 V / max. 60 mA
Power Supply	D224.xxS2U3: Universal supply range 20...265 Vuc, Power consumption approx. 8 W Insulation category Class 1
Connectors (Wiring)	Screw mounting, 2 plug-in terminal blocks, accepting 0.2...2.5 mm ² cross section
Operating Conditions	Ambient temperature: 0...50 °C Increased temperature range: -25...+65 °C (suffix M to model No.) Relative humidity max. 95%, non-condensing
Design	Snap-on-track enclosure for 35 mm rail, field mounting enclosure (Option -G) on request
Dimensions	Length 100 mm, width (including terminal blocks) 104 mm, height 110 mm
Protection Grade	IP 40 for enclosure (also available in field mounting version, with transparent cover IP 65/NEMA 4) IP 20 for terminals
Weight	approx. 0.4 kg
Optional Accessories	IS-RS232-S: CD-ROM with Interface Software to program parameters L3D03: Plug-in adapter cable, with 9-pole Sub-D (female) plug to PC

Function Diagram and Connections for A5S...3 Sensors



Function Diagram and Connections for A5S...4 Sensors



Ordering Key D224.xxS2

D224. 1 a S2 U3 b c

Data Interface

a = 1 : RS232
a = 2 : PROFIBUS

Supply Voltage

U3 : 20...265 Vuc

Mark for specific option

b = M : increased temperature range (-25...+65°C)
(omit if not required)

Enclosure

c = suffix „-G“ : field mounting enclosure with transparent cover
(omit if not required)

Examples:

D224.11S2U3 : RS232 Data Interface, 20...265 Vuc

D224.12S2U3 : PROFIBUS Data Interface, 20...265 Vuc

D224.11S2U3M : RS232 Data Interface, 20...265 Vuc,
increased temperature range (-25...+65°C)

D224.11S2U3-G : RS232 Data Interface, 20...265 Vuc,
field mounting enclosure with transparent cover

D224.12S2U3M-G : PROFIBUS Data Interface, 20...265 Vuc,
increased temperature range (-25...+65°C),
field mounting enclosure with transparent cover

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.

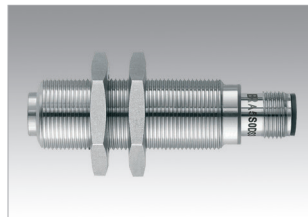
For more than 50 years BRAUN systems have been protecting the facilities of the world's leading companies within the power generation, oil, gas and chemical industries. BRAUN Protection Systems have been installed in over 100 countries worldwide, especially in those areas where rotational equipment safety 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

