D421.5 Compact Speed Alarms with optional analog output

Measuring Principle
Distinguished by quartz-controlled pulse distance evaluation, automatically extended over a programmable minimum period of time. The ideal combination of fast response and averaging of measurements, as appropriate for the application.
Minimum response time (to averaging) programmable 5 millisec up to 99 seconds.

Signal Input
Isolated from power supply, and from output.
The high level path responds with on/off >7/<4 volts. Max. signal 150 v. Impedance 100 k. Frequency 0-100 kHz.
The high sensitivity path responds to > 50 millivolts$_{RMS}$, max 35 v DC may be superimposed. Max. signal 100 v. Impedance 50 k. Frequency 1-50 kHz.
Sensor supply 12 volts/60 ma
and 8 volts via 1k for 2leads NAMUR types.
Input frequency divider programmable 001 – 255.

Pulse Output
Square wave with same sequence as input. Level approx 10 v with 1 k impedance. Common zero with input.

Power supply
on option:
18 … 40 volts AC/DC = suffix U1 to model No.
85 .. 265 volts AC/DC = suffix U2 to model No.
Power consumption approx 4 watts.

Insulation grade: category I .

Compatibility with Standards
EMI according to EN 610000-6.2, EN 610000..-6.4,
Safety according to EN 61010-1

Application Characteristics
- Widely used with drives and other process quantities, to monitor speed by alarm contacts, optionally accompanied by an analog signal.
- 2 setpoint alarms with SPDT relay contacts.
- Optional analog output 0/4-20 ma.
- Input to frequency signals 0 … 100 kHz.
- Responding to all type of sensors and transmitters
- Easy installation and operation.
- Precise digital calibration to the application data.

Specific Features
- 2 fast responding isolated relay alarm contacts. Setpoints and their response characteristics individually programmable over the entire range from zero to high speed.
- Alternative input paths for high level signal sources and with high sensitivity for low level signals.
- 5 digit scaling factor for the quantity under measurement.
- 3 digit programmable input frequency divider to compensate signal sequence irregularities.
- Measuring principle combining programmable fast response and averaging within wide limits.
- Square wave input repeating output.
- Isolated analog signal output
- 5 digit display reading the variable in programmed terms (8 mm LCD).

Setpoint Alarms
2 isolated outputs by SPDT contacts.
Individually programmable: Setpoints by 5 digits over the entire range, hysteresis by bandwidth and position (above, below, around setpoint), contact position at speed excess, alarm condition at no-power and during starter period.
Starter activated by external contact, extension programmable up to 999 sec.
Power handling max 250 V/ 2 A / 100 W (overload protection required).

Analog Output (optional)
Isolated from input and power supply.
0/4-20 ma into max load 750 ohms.
Conversion span and live zero programmable.
Resolution 12 bit (1:4096). Accuracy 0.1 %.
Long term stability 0.25% for 5000 hrs.
Temperature stability 0,02%/°C within 0-40 °C.

Ambient Temperature in operation
Standard 0 ..+ 50 °C.

Increased range (suffix M to model No) -25 °C …+ 65 °C.
No condensation.

Design
Snap-on-track enclosure for 35 mm DIN rail. 70 mm long, width 75 mm, height 110 mm.
Display (8 mm LCD) and programming keys (lowered) on top.
Protection grade enclosure IP 40,terminals IP 20.
Weight approx. 250 grams.

Special design for outdoor mounting in IP65 (NEMA 4) enclosure. Suffix –G to model No.

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Ordering Key **D421. ___ __ __ __**

Functions required
51 for alarms only
52 for alarms + analog output

Supply voltage
U1 = 18… 40 v AC/DC
U2 = 85 ..265 v AC/DC

Special versions only:

G for IP65 outdoor enclosure
(omit if not required)

M for increased temperature range
(omit if not required)

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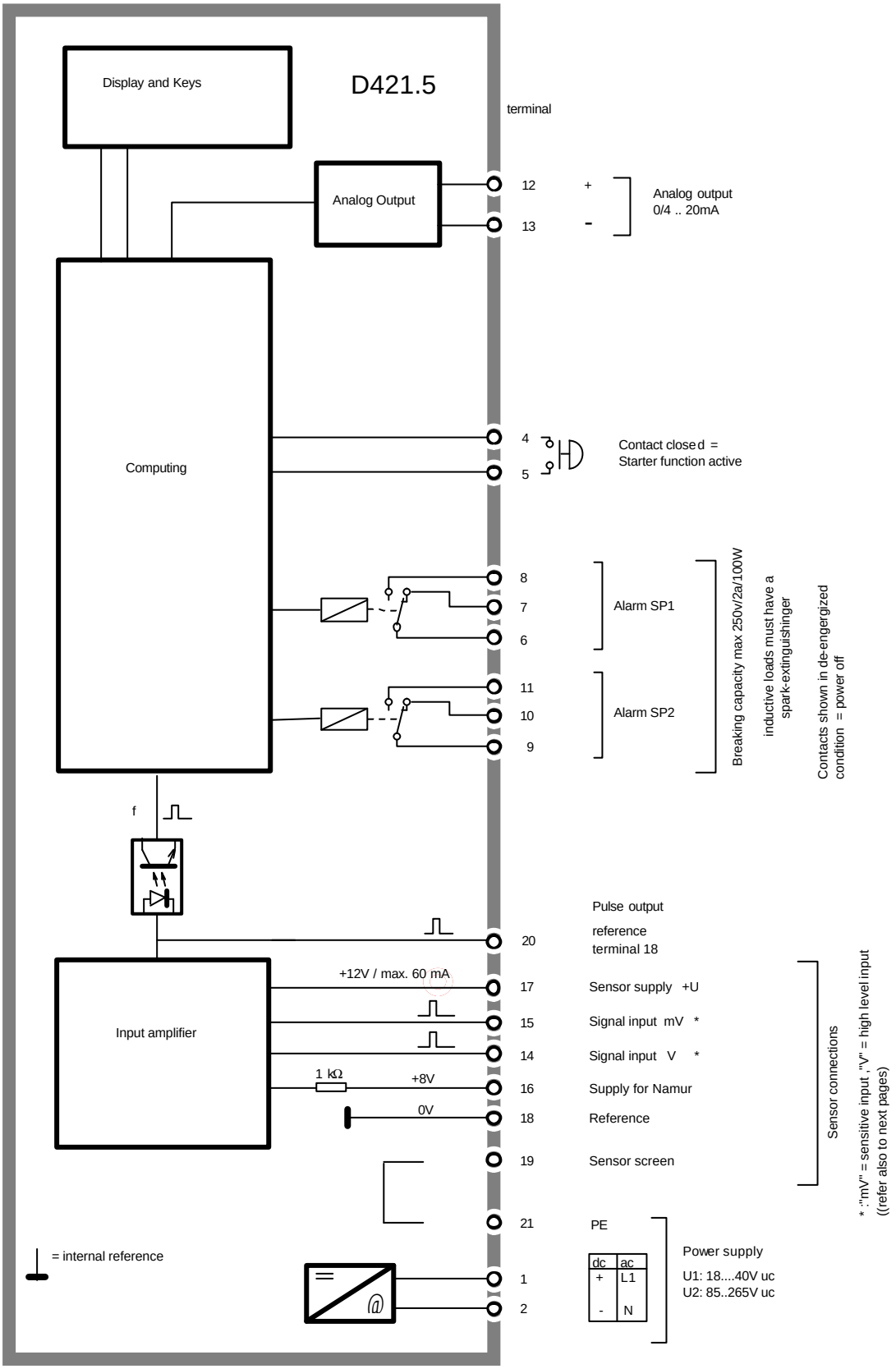
Function Diagram with terminal Nos
(including analog output option)



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