



ORDERING CODE

TYPE	SUPPLY VOLTAGE	AC/DC	RELAY CONTACTS
SC 320	230 V	AC	SPDT

Application Examples

- Back-up system for tacho generator on mine hoists.
- Over-speed detection on mine loco's, fork-lift trucks, etc.
- Sequence starting on interdependent conveyor belts.
- Starter motor disabling on diesel engines.
- Conveyor belt slip detection.
- Conveyor belt tearing detection.
- Indication of production speed or manufacturing feed rates.
- Indication of rotational speed.

Features

- Failsafe feature.
- Direct interface with NAMUR two-wire proximity sensors or limit switches.
- Low power sensor signal to DIN 19234.
- Sensor cable fault indication.
- Programmable speed ranges: 10 RPM to 10 000 RPM.
- Programmable for over-speed or under-speed detection.
- 0 to 1mA proportional output for tachometer instruments (PQ72).
- Speed setpoint adjustable on calibrated scale 0-100%.
- Start-up delay.
- 10A SPDT relay output.

Description of Operation

The SC-320 is a multi-range tachometer relay, interfacing with NAMUR (DIN 19234) proximity sensors or limit switches. The sensor will provide a pulse every time a metal object enters the sensing area (eg. a nut or bolt on a rotating shaft or the teeth of a gear wheel). Monitoring the frequency of pulses received from the sensor, the module provides either over-speed or under-speed detection, as well as a proportional output for a PQ-72 tachometer instrument in five-overlapping ranges from 10 RPM to 10 000 RPM. The mode of operation is programmable and the unit features sensor cable fault indication.

Start-up Delay: When power is applied to the module, the relay energises immediately, ignoring abnormal speed conditions experienced during initiation.

Over-speed Sensing: When programmed for over-speed sensing, the relay de-energises if the speed exceeds the set limit. When the speed drops below 10% of the set limit, the relay energises.

Under-speed Sensing: When programmed for under-speed sensing, the relay de-energises if the speed drops below the set limit. When the speed rises above 10% of the set limit, the relay energises.

Cable Fault: When cable fault occurs on the sensor line, a LED on the module will indicate fault condition. When the cable fault is an open circuit (cable fracture), both the "cable fault" LED and the "input sensing" LED will illuminate. If the fault is a short circuit in the cable, only the "cable fault" LED will illuminate.

Hysteresis: Hysteresis represents the difference between the tripping point and the recovery point of the unit. The hysteresis is fixed to 10% to prevent relay chatter when the speed fluctuates around the set limit.

Response time: If the 10 seconds response time on the lower speed ranges (100 and 300 RPM) is too slow, it is recommended to increase the number of target points on the rotating surface. This results in a multiplication and hence a higher RPM range when a faster response time is required.

Operational Diagrams

