8.2.1.6.2 Photoelectric proximity switch

8.2.1.6.2.1 General

The frequency of operating cycles (f) is determined from the formula:

$$f = \frac{1}{t_{on} + t_{off}}$$

where

t_{on} is the turn-on time;

t_{off} is the turn-off time;

and shall be stated by the manufacturer;

t_{on} and t_{off} shall be measured according to 9.5.4.

8.2.1.6.2.2 Turn-on time (t_{on})

The turn-on time and the measuring method shall be stated by the manufacturer.

8.2.1.6.2.3 Turn-off time (t_{off})

The turn-off time and the measuring method shall be stated by the manufacturer.

8.2.1.7 Time-delay before availability (t_v) (start-up time)

The time-delay before availability shall not exceed 300 ms.

During this time, the switching element shall not give any false signal. A false signal is a signal other than zero which appears for longer than 2 ms (see 9.3.3.2.1).

NOTE Zero signal means that only OFF-state current flows through the load.

8.2.1.8 Excess gain or sensing range displacement for photoelectric proximity switches

The excess gain or in case of proximity switches with background suppression sensing range displacement and the measuring method shall be stated by the manufacturer.

8.2.1.9 Rated operational current (I_e)

The rated operational current shall be:

- 50 mA DC or,
- 200 mA AC RMS.

Other values shall be stated by the manufacturer.

8.2.1.10 Minimum operational current (I_m)

The minimum operational current shall be:

- 2 terminals $I_m \leq 5$ mA DC or AC RMS;
- 3 or 4 terminals $I_m \leq 1$ mA DC.

and verified according to 9.3.3.2.2.