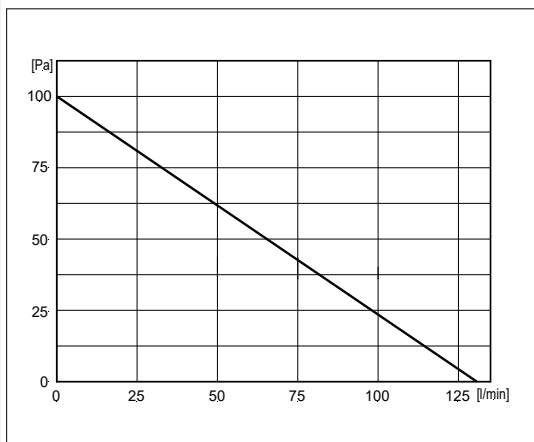


HYB60A Series

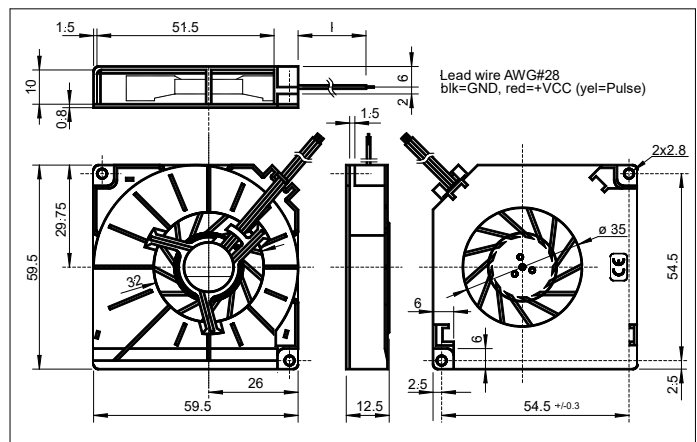
HIGH PERFORMANCE FAN



AIR PERFORMANCE



SHAPE AND DIMENSION



PERFORMANCE

| CE | | HYB60A05-001 HYB60A05A-003 | HYB60A12-001 HYB60A12A-001 |
|--|---------------------------|-------------------------------|-------------------------------|
| | | 4.5 ... 5 ... 5.5 | 10.8 ... 12 ... 13.8 |
| Operating voltage | [VDC] | 4.5 ... 5 ... 5.5 | 10.8 ... 12 ... 13.8 |
| Typ. operating current | [mA] | 220 | 90 |
| Max. start current | [mA] | 400 | 200 |
| Max. air flow | [l/min-m ³ /h] | 130 – 7.8 | 132 – 7.9 |
| Max. pressure | [Pa-mmH ₂ O] | 93 – 9.5 | 100 – 10.2 |
| Typ. noise (1m dist. from air intake side) | [dB(A)] | 33 | 34 |
| Typ. rotor speed | [RPM] | 3700 | 3800 |
| Wire Length | [mm] | 250±15 | 130±8 |
| FG (...A) | [PPR] | 2 | |
| Operating temperature | [°C] | -10 ... +80 | |
| Life expectancy L10/MTBF@ 40°C | [h] | 70000/550000 | |
| Bearing system | | 2 ball bearings ZZ | |
| Weight | [g] | 22 | |
| Standard packing quantity | [Pcs.] | 50-100-500 | |

This **SEPA**® high-tech miniature fan is suitable for industrial use and has a remarkable air flow performance despite its small dimensions. Thanks to the extremely low power input, this fan is highly suitable for battery-operated devices. It is permanently protected electrically against reverse polarity, blocking and thermal overloading. Due to the low rotor weight and precision balancing, it is virtually vibration-free. It is also insensitive to shock.

Further features of this fan are its extremely robust and torsionally stiff housing of PBT GV, ball bearing with narrow tolerances, of special steel, polyester-based PCB and absolute reliability.

HYB60A Series

HIGH PERFORMANCE FAN



• ALARM SIGNAL

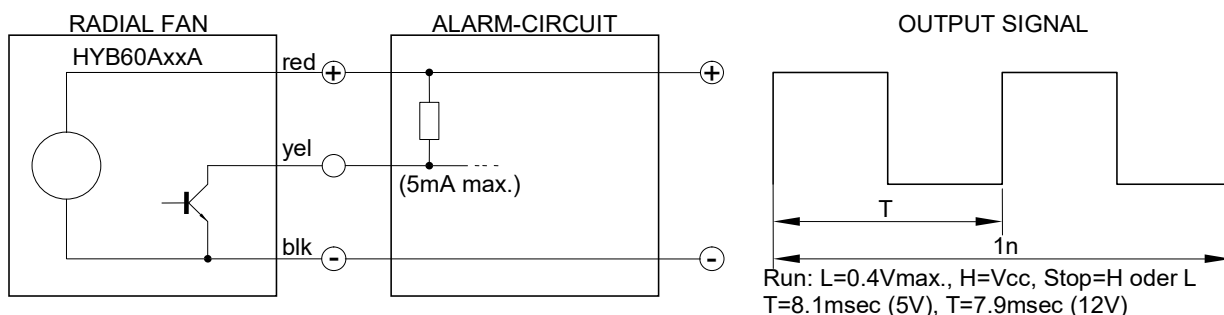
The **SEPA**® fans HYB60AxxA include a pulse output, which allows monitoring the correct function of the fan.

The pulse is like a rectangular wave, the frequency correlates to 2x rotor speed. The amplitude appears periodically. At blocked rotor the output signal could be L ($\leq 0,4V$) or H (Vcc).

IMPORTANT: The pulse output is not protected against short circuit and must not connect to GND or Vcc without pre-resistor. A pull-up-resistor is needed. Do not connect not used pulse output (insolate).

The fans HYB60Axxx have tinned lead wire ends (without connector).

Do not touch the rotor! Please note the handling specification!



• ACCESSORIES:

Connector: on request

• ORDER INFORMATION (Delivery time on request)

| | | |
|---------------|---|-----------|
| HYB60A05-001 | SEPA ® Radial fan, 60x60x12.5mm, 5VDC, ball bearings, CE | 116011000 |
| HYB60A05A-003 | SEPA ® Radial fan, 60x60x12.5mm, 5VDC, ball bearings, FG, CE | 116011010 |
| HYB60A12-001 | SEPA ® Radial fan, 60x60x12.5mm, 12VDC, ball bearings, CE | 116012000 |
| HYB60A12A-001 | SEPA ® Radial fan, 60x60x12.5mm, 12VDC, ball bearings, FG, CE | 116012010 |

SEPA® is the brand name for fans and CPU-cooler, made by Nippon Keiki Works LTD., Tokyo