

# VI - OPTIONS

## DEGREES OF PROTECTION - IP

ETRI supplies a full range of AC and BDC fans offering high level of protection against dust or water.

Most of our standard models, and all our high performance fans are available with protection for use in specific conditions, up to IP55 environments.

For more information regarding the protection levels, see the corresponding table page 170.

## VARIABLE SPEED

The "VARIOSPEED" option is now available on some BDC series. With this option, the speed

rotation will vary according to the ambient temperature.

For more information regarding the VARIOSPEED Fans, please consult factory.

## SPEED SENSORS AND ALARM SIGNALS

Most ETRI DC and AC Fans feature a speed sensor that detects number of pulses per revolution, or a rotation detector (on/off signal) which indicates if the fan works correctly.

These options are codified as follow:

Speed sensor: 3 - Eg.: 280DH2LP13000

Alarm: 4 - Eg.: 280DH2LP14000

ETRI provides also a full range of alarm box (relay + dry contact) to read directly the signal of the speed sensor or alarm output (see pages 164-166).

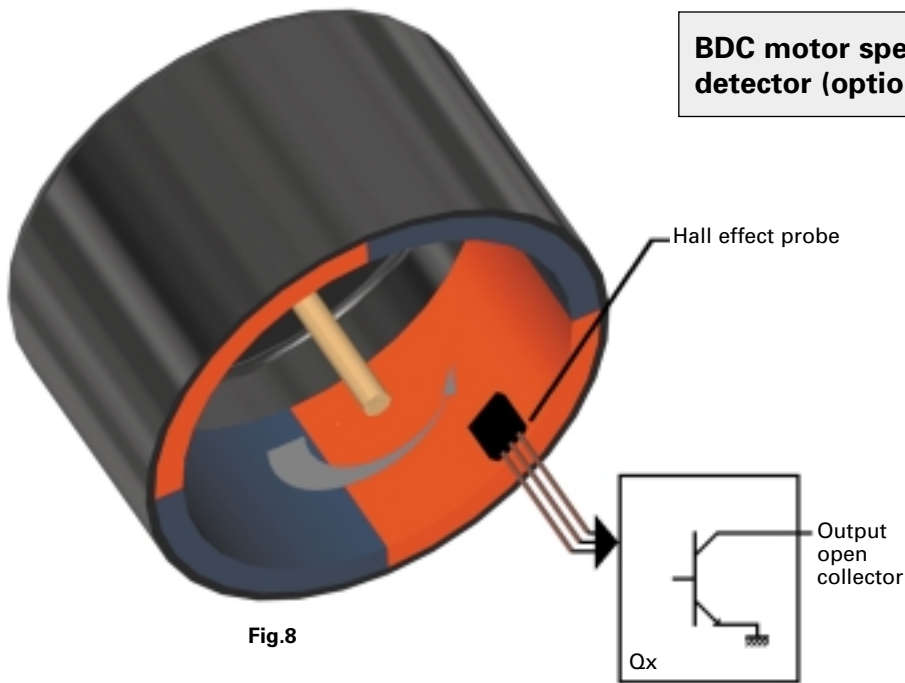
## OPERATING PARAMETERS OF SPEED SENSORS AND ROTATION DETECTORS

The hall effect probe positioned on the rotor generates a pulse at each rotation of the magnet pole (north or south).

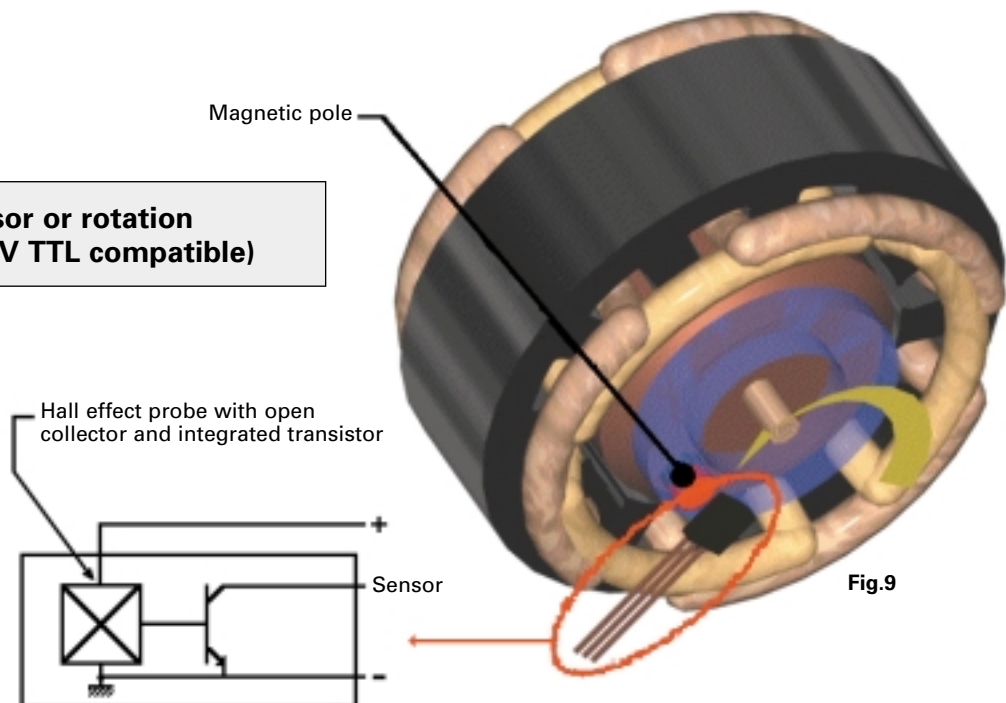
This pulse will saturate an open collector which is directly mounted on the electronic circuit of the fan.

VCE max and IC max will vary according to the type of transistor used. Consult factory to get this information.

**BDC motor speed sensor or rotation detector (option: 5,1 V TTL compatible)**

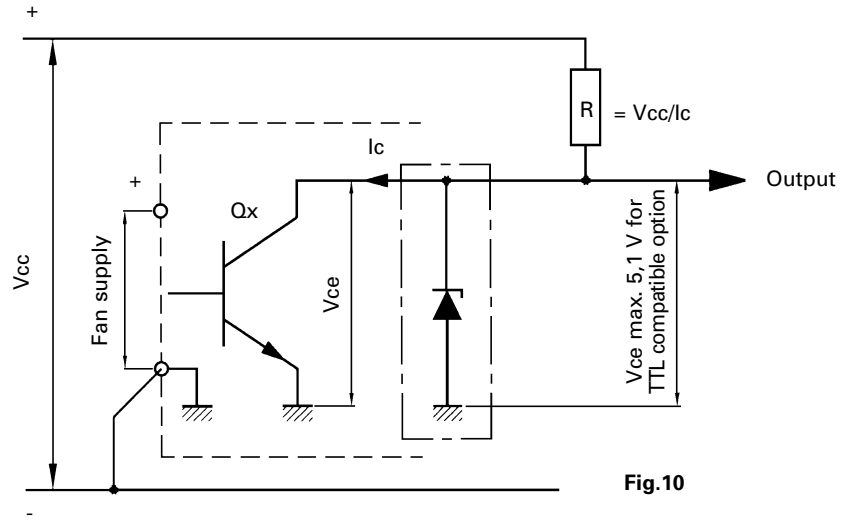


**AC motor speed sensor or rotation detector (option: 5,1 V TTL compatible)**



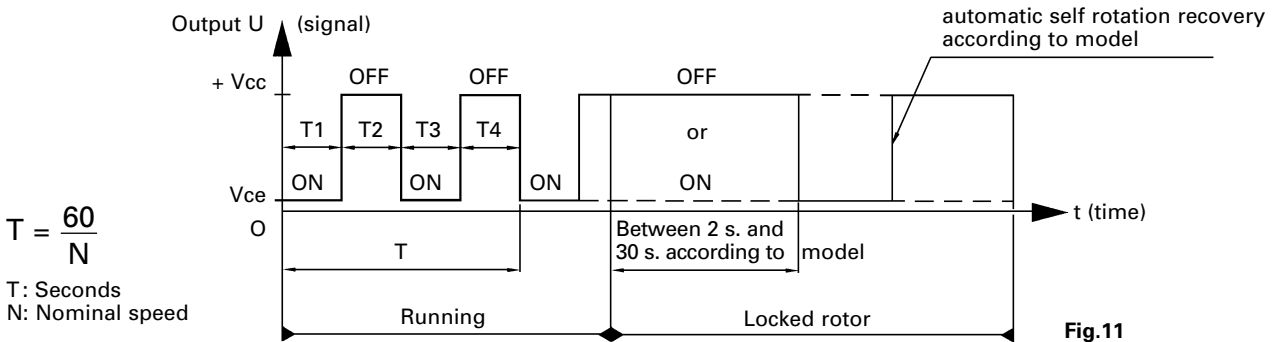
# Output signals for Brushless DC motors

## Diagram

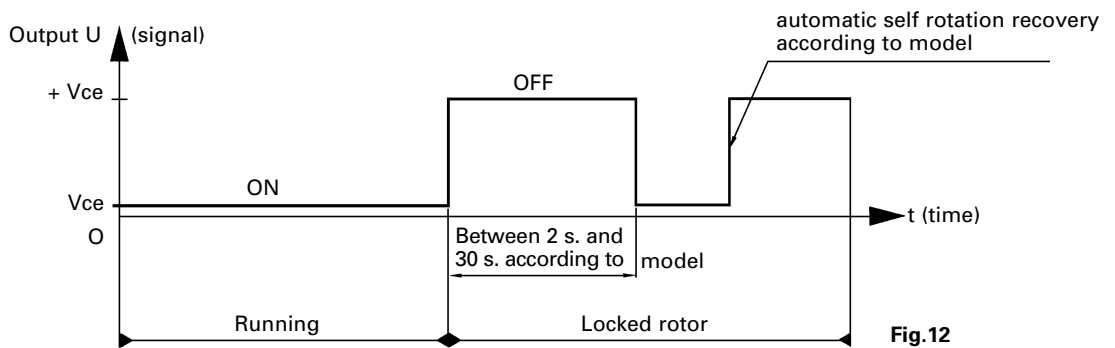


Ic and Vce max. values depend on part number

## Speed Sensor Output



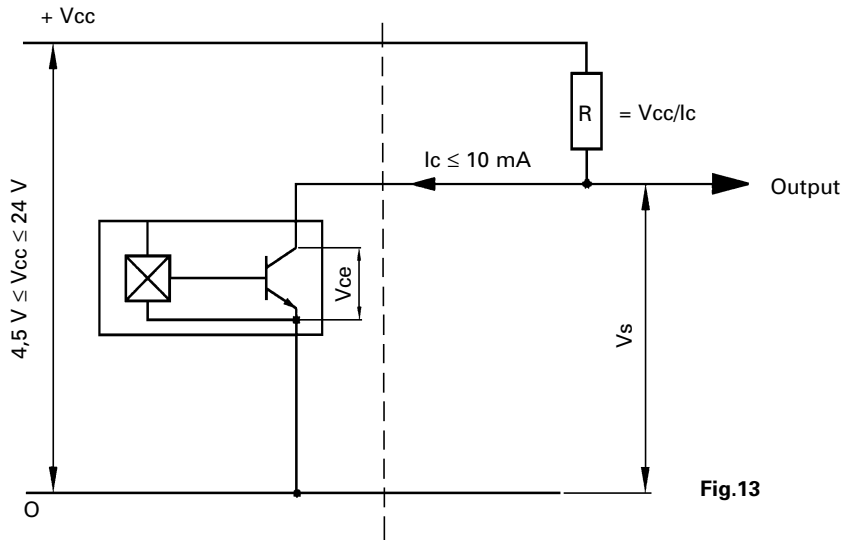
## Alarm Output



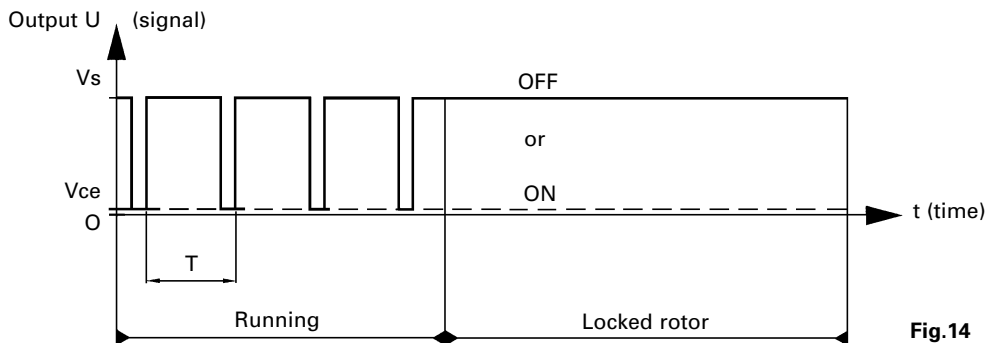
Option: Reverse alarm

# Output signals for AC motors

## Diagram



## Speed Sensor Output



$$T = \frac{60}{N \times n}$$

T: Seconds  
 N: Nominal speed  
 n: Quantity of South poles (depending on part number)

# Technical guide

## OPERATING PARAMETERS OF ALARM RELAYS

The well speed rotation information is treated by our RA alarm box (see pages 164-166).

The reference cable-up (under speed rotation) starts the alarm.

The information is available through an open collector, a relay or a photo-couplor (galvanic isolation).

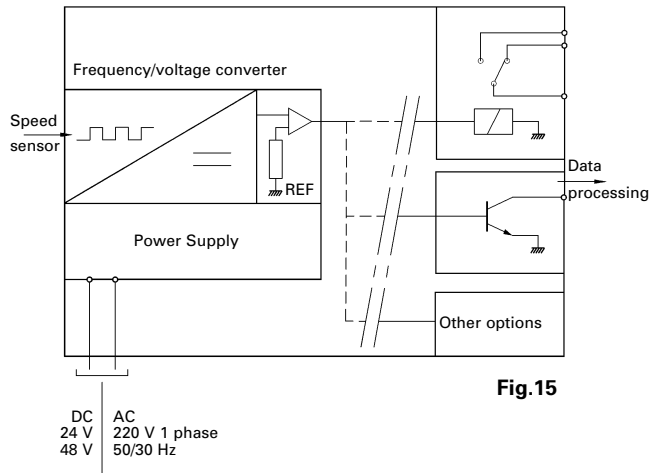


Fig.15