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STEVAL-IFS007V1

Distributed proximity sensor demonstration board based on the TDA0161

Data Brief

Features

- 4 TDA0161 proximity detectors capable of detecting the current losses in the passive coils connected to the board
- Each sensor supplied by a 24 V industrial type connector

Description

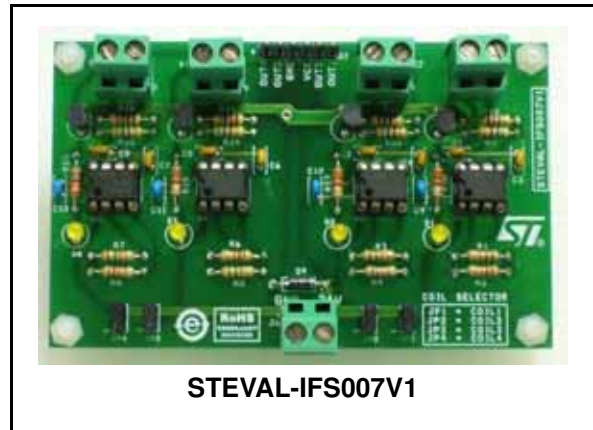
The STEVAL-IFS007V1 demonstration board is designed for easy connection to 24 V systems, as it is intended for use in factory automation environments. Optionally, the board can be connected to the STEVAL-IFP008V1 board, which hosts a current limited over-voltage protected quad digital termination.

The STEVAL-IFS007V1 can be used as a standalone in systems where no processing or control characteristics are required, or it can be integrated as an end-board in control systems. In the latter case an interface board, such as the above mentioned STEVAL-IFP008V1, is necessary to protect the microcontroller and other application-specific devices from high current and voltages outside of specifications.

When the board is used as a standalone, it is possible to connect up to 4 different, independent coils, each of which acts as the passive element to sense an incoming metallic object by sensing variations in high frequency eddy current losses.

In terms of output voltage, the variation is between approximately 8.5 V and 11.5 V in 24 V supplied systems, so the output span is approximately 3 V.

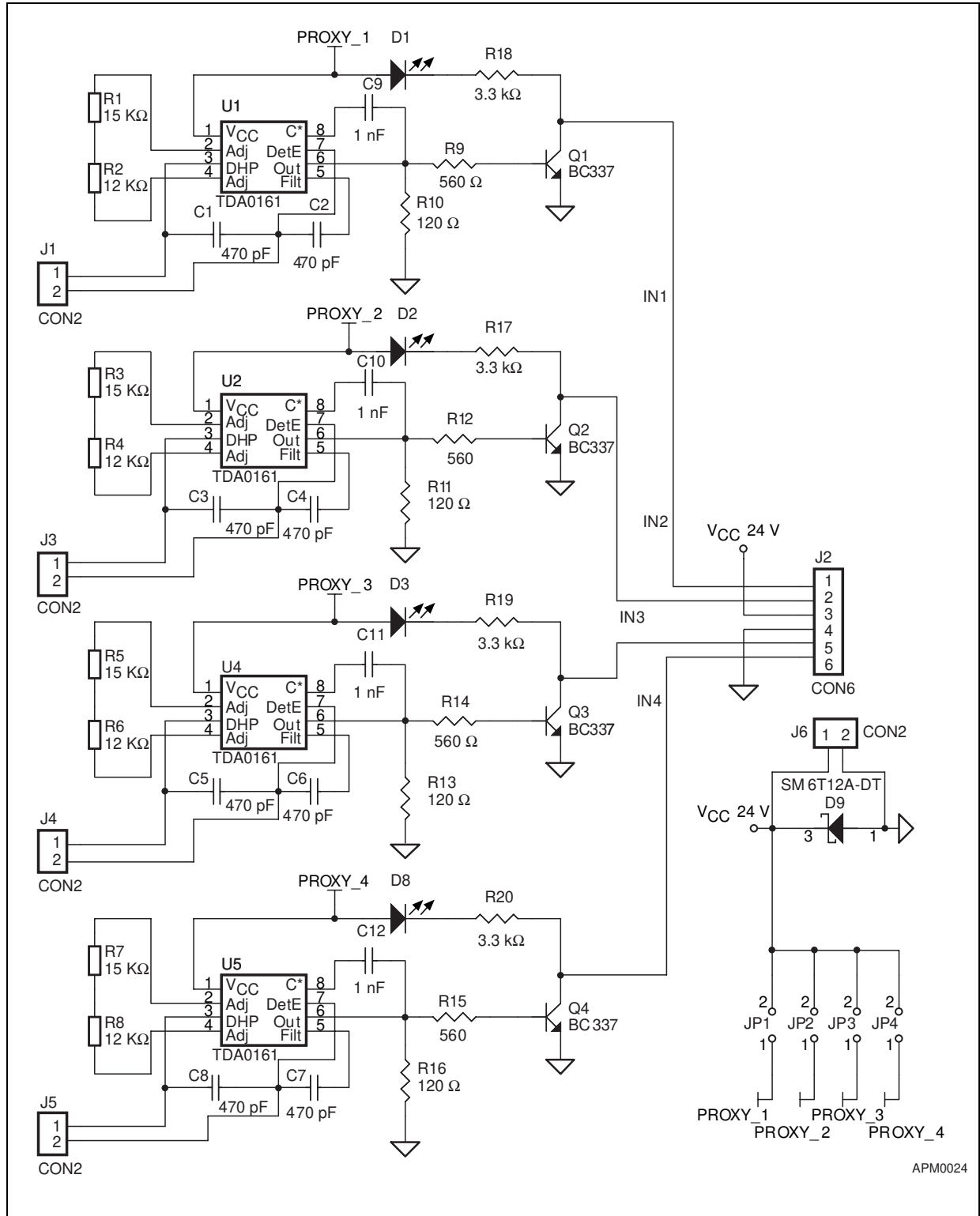
On-board jumpers can be used to enable/disable channels. LEDs on the board furnish local alerts when an object is close to one coil. The circuit parameters are tuned to detect metallic objects at a distance of up to 4 mm. For further details on parameter tuning and circuit and device



functionality, please refer to the TDA0161 device datasheet.

1 Block diagram

Figure 1. Proximity sensors



APM0024

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
07-Jul-2008	1	Initial release.

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