

## Fully integrated device transceiver IC

Data brief

### Features

- Supply voltage from 8 V to 32.5 V
- 2 programmable output stages: high-side, low-side or push-pull ( $< 4 \Omega$  @ 125 °C)
- Up to 230 kHz communication speed
- 2 industrial digital inputs, type 1 compliant and programmable filter
- Short-circuit and overcurrent outputs protection through current limitation and programmable cut-off current
- Overvoltage protection ( $>36$  V)
- 3.3 V/5 V selectable 50 mA linear regulator (with maximum power dissipation = 200 mW)
- On chip high efficiency adjustable 50 mA synchronous step-down switching regulator
- Control, configuration and diagnostic registers
- Diagnostic dual LED sequence generator and driver
- Internal clock generator with programmable frequency divider
- 5 V and 3.3 V compatible I/Os
- Integrated active reverse polarity protection with 200 mV @ 200 mA drop
- Integrated, IEC61000-4-5 surge protection, with source impedance 500  $\Omega$
- Overtemperature protection
- ESD protection
- Conform to IEC 61000-4-4
- Miniaturized: QFN 3.5 x 5 x 1 26 lead package

### Applications

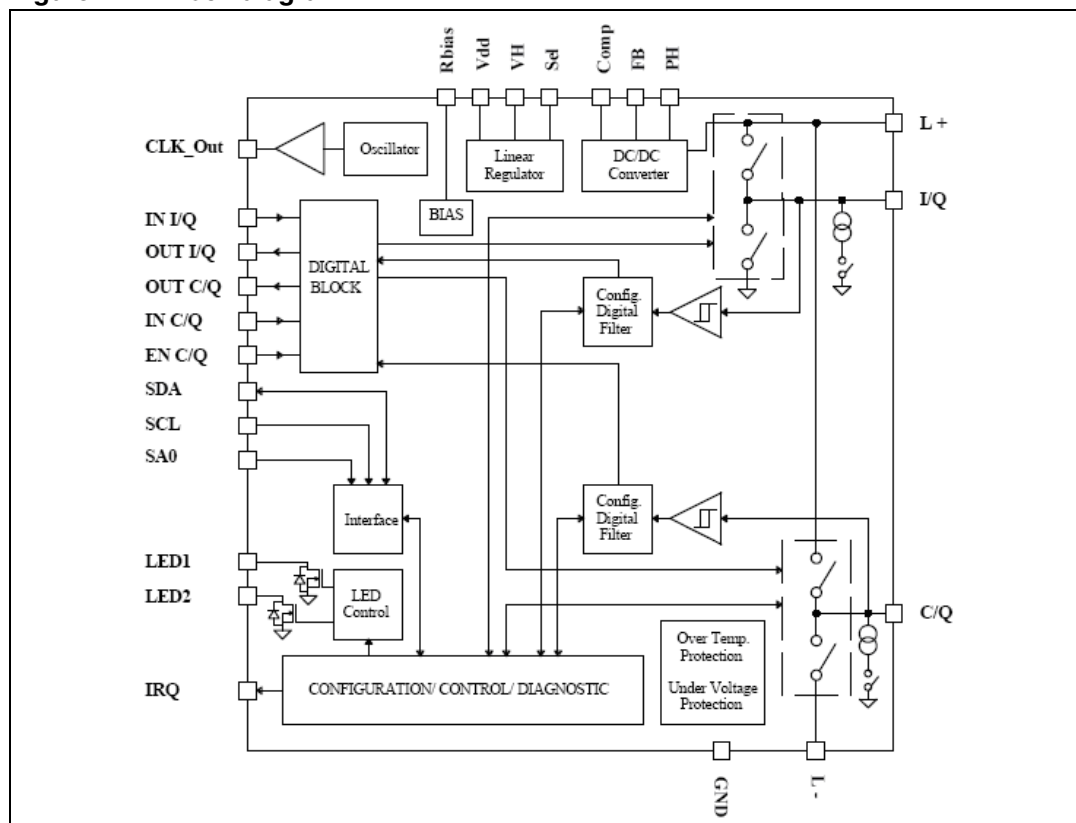
- Industrial sensors power-stage
- 24 V push pull line driver
- Fast I/O PLC interface, IO-Link conform



### Description

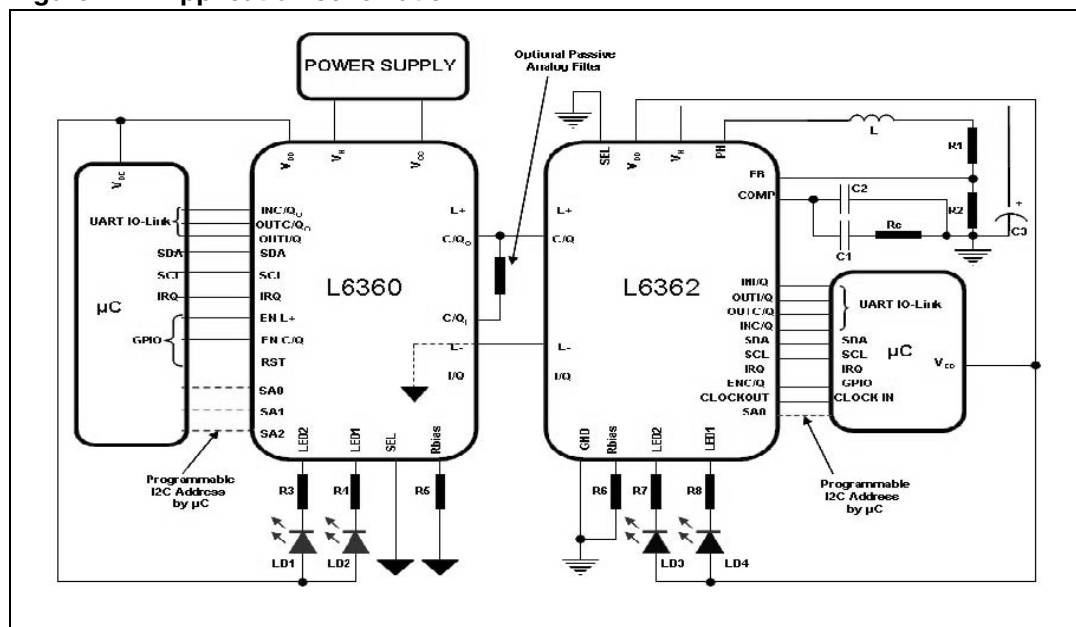
The L6362 is a monolithic dual push pull Transceiver fully compliant to PHY2 (3 wires) supporting COM1 (4.8 kbaud), COM2 (38.4 kbaud) and COM3 (230.4 kbaud) modes. C/Q and I/Q output stages are programmable: high-side, low-side or push-pull; also cut-off current and cut-off current delay time are programmable. Cut-off current and cut-off current delay time combined with thermal shutdown and automatic re-start protect the device against overload and short circuit. C/Q and I/Q output stages are able to drive also inductive loads up to 10 mJ. Supply voltage is monitored and low voltage condition is detected. L6362 transfers/receives, through the PHY2, data received/transmitted in the digital block from sensor/actuator to/from the L6360 twin device. To enable full IC control, regarding configuration and monitoring (i.e. fault condition stored in the status register) the communication between the system microcontroller and L6362 is based on a high speed 2 wires interface. The L6362 has nine registers to manage the programmable parameters and the status of the IC. Monitored fault conditions are: Power On (L+ line), Overtemperature, C/Q overload, I/Q overload, linear regulator under-voltage and parity check. The fully integrated high precision oscillator, requiring an external resistor, provides internal clock as well as system clock. Internal LED driver blocks, in open drain configuration, provide two programmable sequences to drive two LEDs. The integrated, high efficiency low power Step-down switching converter provides power supply to the IC and external circuits.

Figure 1. Block diagram



STMicroelectronics complete solution with device and master unit communicating with each other and with microcontrollers.

Figure 2. Application schematic



# 1 Revision history

**Table 1. Document revision history**

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 23-Jul-2009 | 1        | Initial release. |

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