



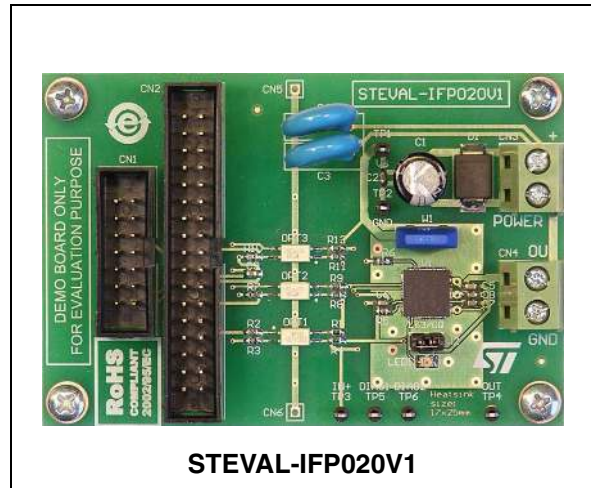
# STEVAL-IFP020V1

PLC (for industrial automation) digital output solution using a 2.5 A single high-side smart power switch based on the L6370Q

Data brief

## Features

- Single-channel topology
- Galvanic isolation
- 2.5 A output current
- 9.5 V to 35 V supply voltage range
- Short-circuit, overload, and thermal protections
- Loss of ground and  $V_S$  protections
- Fast demagnetization of inductive loads
- Open load, output short to  $V_S$  detection
- Two diagnostic outputs
- Output status LED driver
- EMC immunity against burst, surge, and ESD
- RoHS compliant



## Description

The STEVAL-IFP020V1 demonstration board is based on the L6370Q, a single-channel high-side driver chip intended for driving resistive, inductive or capacitive loads in an industrial environment. It provides an embedded fast demagnetization feature for inductive load switch-off.

The device evaluates load disconnection (during channel on-state), output short to  $V_{CC}$  or GND, overtemperature, undervoltage of supply voltage, and provides feedback to a control unit.

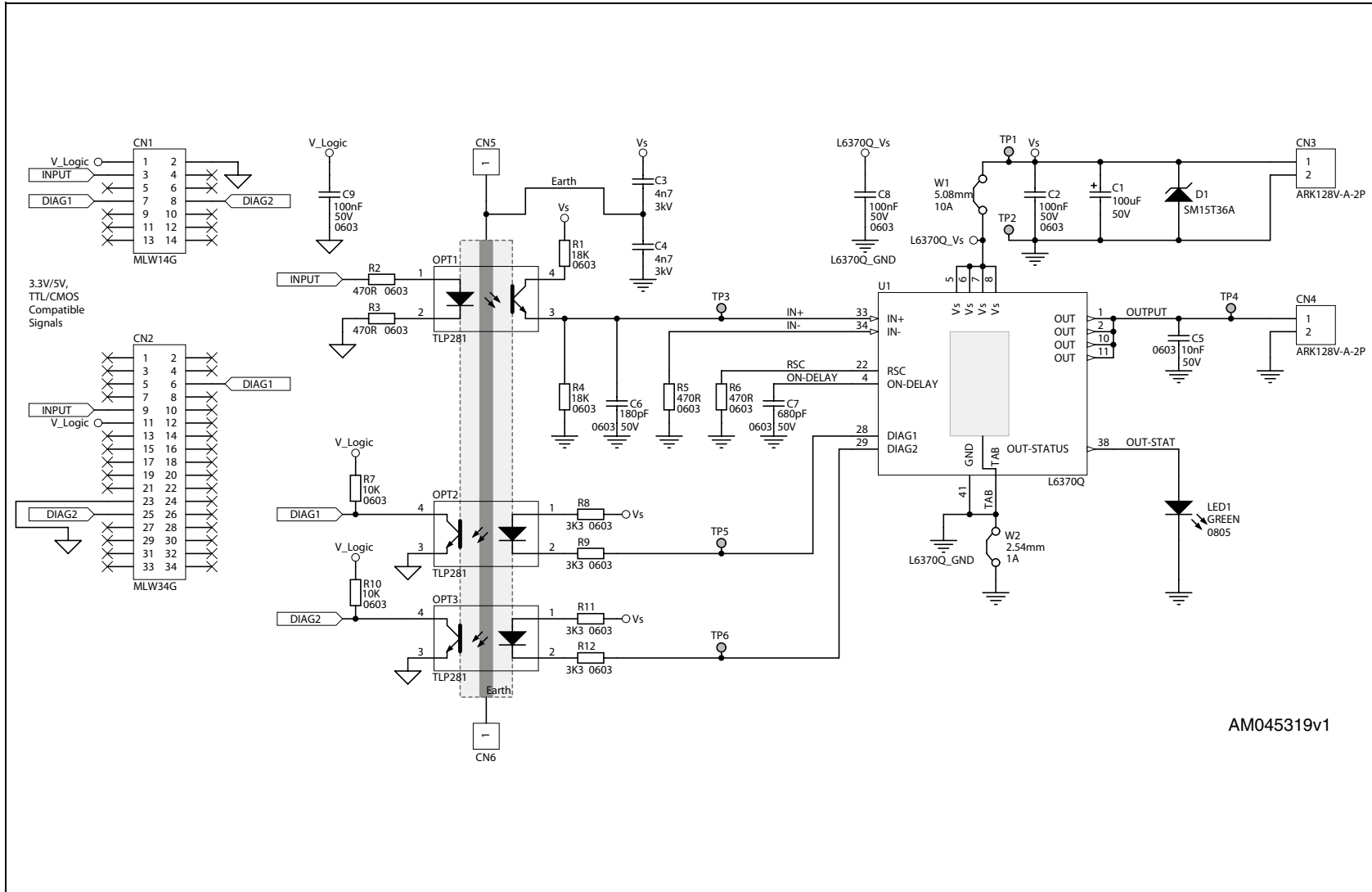
Integrating an extensive set of electrical protections makes the application safe and reliable for use in harsh conditions.

The STEVAL-IFP020V1 demonstration board is an example of application design using the L6370Q. It is used to guide the designer in choosing external components for applications while providing an appropriate PCB design.



# 1 Schematic

Figure 1. STEVAL-IFP020V1 schematic



## 2 Revision history

**Table 1. Document revision history**

Date	Revision	Changes
22-Dec-2011	1	Initial release.

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**UNLESS EXPRESSLY APPROVED IN WRITING BY TWO AUTHORIZED ST REPRESENTATIVES, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2011 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)