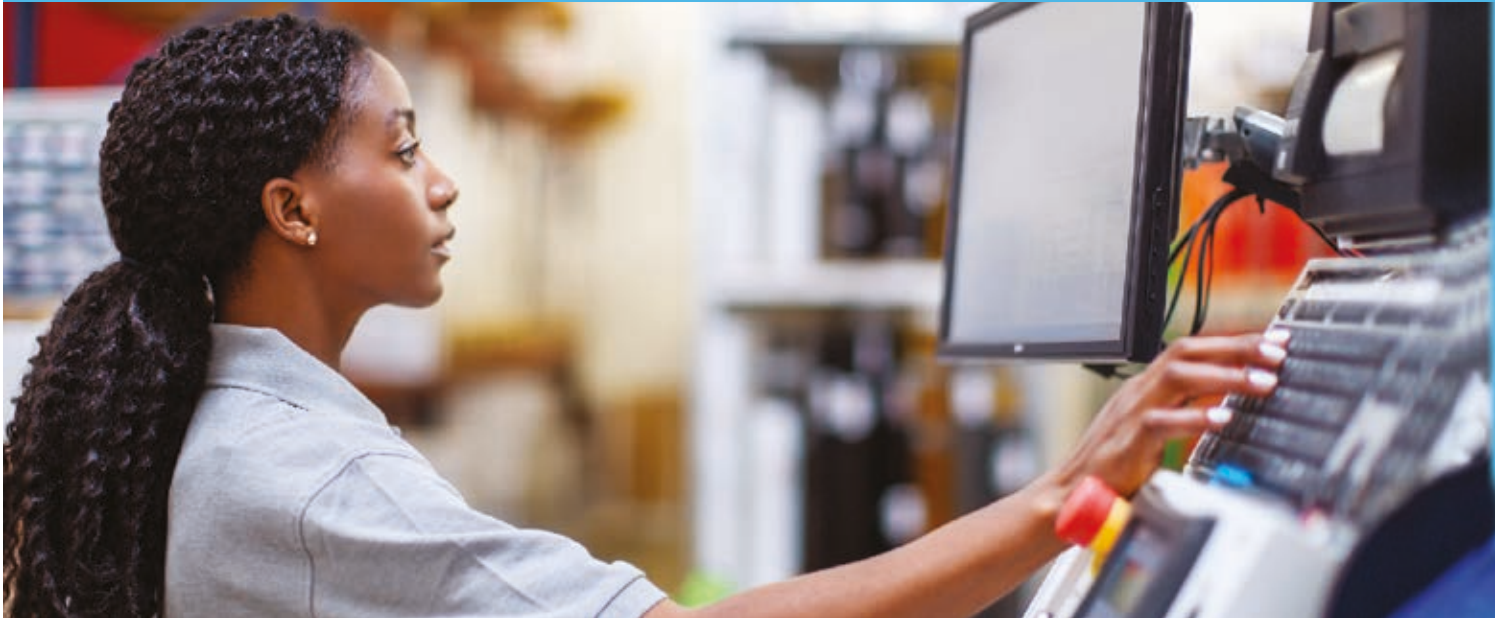# IPS160HF/IPS161HF

Ready for tomorrow's safe control solutions

Single high-side switch with short power on/off delay time in order to satisfy SIL systems requirements for interface type C (or D) Class 3

We are on the threshold of the fourth industrial revolution: digitalization of production, efficient and flexible Supply Chain, maximum quality and enhanced safety are driving the future of manufacturing. With an operation supply voltage range up to 60V, the IPS160HF and IPS161HF intelligent power switches (IPS) are specifically designed to match the application requirements of the Safety Integrity Level systems. Further, these devices feature protection for self and load safe operation and provide extended diagnostic signals for exhaustive application control.

KEY FEATURES & BENEFITS

- Wide supply voltage range: 8 to 60 V
- Power on/off delay time <60µs
- Current limitation > 2.5 A (IPS160HF), > 0.7 A (IPS161HF) with programmable cut-off delay time
- Max. on-state resistance of 120 mΩ (60 mΩ typ.) for very low conduction Losses
- Enhanced robustness with extensive protections and diagnostics
- Detection of open load or short to Vcc in OFF state
- Fast demagnetization of inductive Loads
- Satisfy SIL applications requirements for interface type C (or D) Class 3
- Tiny PowerSSO12 (4.9x6mm) package

KEY APPLICATIONS

- Programmable logic controllers (PLC)
- Factory automation I/O peripherals
- Safety controllers and relays
- Computer numerical control (CNC) machines
- Suitable for all types of resistive, inductive and capacitive loads

Hands-on development

You can easily explore the IPS160HF/ IPS161HF's features and gauge their benefits for your application using the X-NUCLEO-OUT08A1 and X- NUCLEO-OUT10A1 boards. With their thermally-optimized layout, a galvanically- isolated connection for both the command and diagnostic lines, the boards comply with IEC 61000-4-2, IEC61000-4-4, and IEC 61000-4-5 requirements to enable a comprehensive system level evaluation.

The X-NUCLEO-OUT08A1 and X-NUCLEO-OUT10A1 can be connected through the X-Nucleo boards to a PC where the STSW-IFAPGUI dedicated graphic user interface (GUI) will provide full access to IPS160HF or IPS161HF functions.

X-NUCLEO-OUT08A1

Arduino Connectors

NUCLEO-STM32F4 (or NUCLEO-STM32G4)

Load

STSW-IFAPGUI software on PC
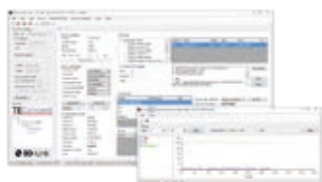
USB Micro-B (or Mini-B) connector

STSW-OUT8F4 (or STSW-OUT8G4)

Order code	Current Limitation (A)	Package	Packing
IPS160HF/ IPS160HFTR	> 2.5	PowerSSO 12	Tube/Tape & Reel
IPS161HF/ IPS161HFTR	> 0.7		

Order code	Description	Related documents
X-NUCLEO-OUT08A1	IPS160HF single high-side driver X Nucleo board	DB4175, UM2715
X-NUCLEO-OUT10A1	IPS161HF single high-side driver X-Nucleo board	DB4176, UM2716
X-CUBE-OUT8	Source code ODE compliant example	DB4178, UM2707
STSW-IFAPGUI	Graphical user interface for intelligent power switches in industrial applications	DB37755, UM2509
STSW-OUT8F4	Binary files enabling GUI to flash on STM32 type F4 or G4	DB4179
STSW-OUT8G4		DB4180

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Order code: FLIPS160HF0820

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