

# IPS8160HQ and IPS8160HQ-1



## Compact 8-channel high-side switches for industrial innovation



### Compact 8-channel high-side switch ICs with embedded protections and high performance efficiency for IEC 61000-4-2/4/5 compliant applications

Offering 8 digital outputs, these intelligent power switches are housed in a compact 48-pin QFN package. In addition to their extended operating range up to 36 V, the different output currents per channel (0.7 A for the IPS8160HQ or 1.0 A for the IPS8160HQ-1), and their low power dissipation (RDS(on):280mΩ/ch (max.), the fully protected output stage of the Power MOSFETs make these ICs suitable to drive heavy industrial loads.

A stackable IPS8160HQ digital output expansion board for STM32 Nucleo and STM32Cube expansion software are available.

#### KEY FEATURES & BENEFITS

- 10.5 to 36V operating voltage
- Low RDS(on):280mΩ/ch (max.)
- Output current limitation:
  - 0.7 A/Ch (min.) IPS8160HQ,
  - 1.0 A/Ch (min.) IPS8160HQ-1
- OVL / OVT protections per channel
- Case OVT protection
- Short-circuit protection
- Thermal shutdown diagnostics pin
- Ground disconnection protection
- Undervoltage lock-out
- Fast demagnetization when switching off inductive loads
- CMOS compatible input
- Designed to meet: IEC 61000-4-2/4/5
- Package: QFN48L 8x6x0.9mm

#### KEY APPLICATIONS

- Programmable logic controls (PLC)
- Vending machines
- Industrial PC peripheral I/Os
- Computer numerical control (CNC)
- General-purpose high-side switching applications

OVL = OverLoad

OVT = OverTemperature

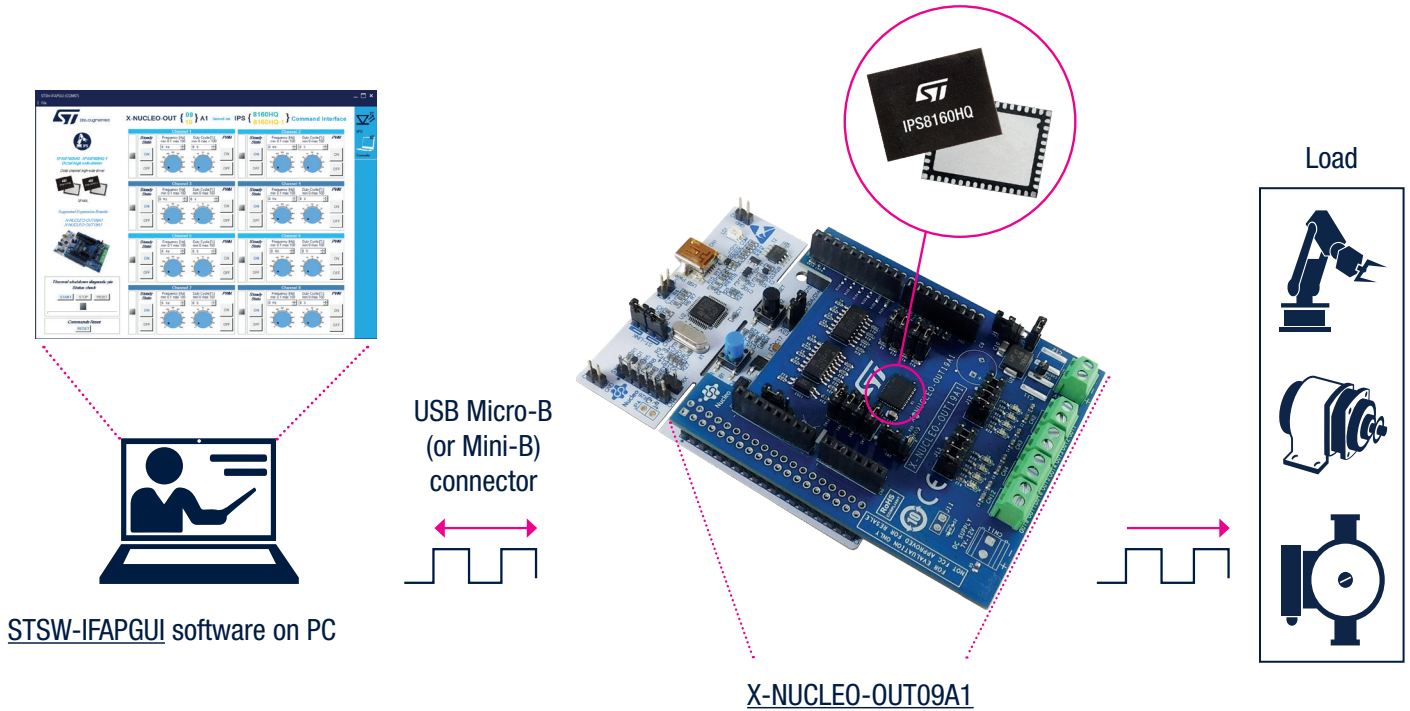


## Hands-on development

Monolithic devices built with ST's robust VIPower technology, the IPS8160HQ and IPS8160HQ-1 high-side switches are designed to drive any type of capacitive, resistive or inductive industrial load with one side connected to ground. The ICs can be driven by using a 3.3 V logic supply, and they differ for the internal current limitations, 0.7 A per channel for the IPS8160HQ and 1.0 A for the IPS8160HQ-1, all other electrical parameters are the same.

Each of the eight output stages is a fully protected N-channel Power MOSFET with a typical  $R_{DS(on)}$  of 160 m $\Omega$  max at ambient temperature. Available in compact 48-pin QFN (8 x 6 mm) package, these intelligent power switches are ideal for space-constrained industrial applications in compliance with IEC 61000-4-2/4/5 ESD immunity standards.

To help developers benefit from the all the advatanges of this compact solution, a stackable digital output expansion boards for STM32 Nucleo (X-NUCLEO-OUT09A1 and X-NUCLEO-OUT19A1) and STM32Cube expansion software (X-CUBE-IPS) with ready-to-use example code and an intuitive graphical user interface are available.



Order code	Package	Packing	Current limitation (A)	Evalboard order code	Related documents	Software
<a href="#">IPS8160HQ</a>	QFN48L 8x6 mm	Tape and reel	0.7	<a href="#">X-NUCLEO-OUT09A1</a>	DB4738, UM3059	<a href="#">X-CUBE-IPS</a>
<a href="#">IPS8160HQ-1</a>		Tape and reel	1.0	<a href="#">X-NUCLEO-OUT19A1</a>	DB4747, UM3074	



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