



# Enclosed bypass switches (IEC)

For ventilation fans with variable speed drives in poultry farms



- Robust design
- Easy installation
- Safety and protection



# Ventilation fans with Variable Speed Drives (VSD) in livestock farms

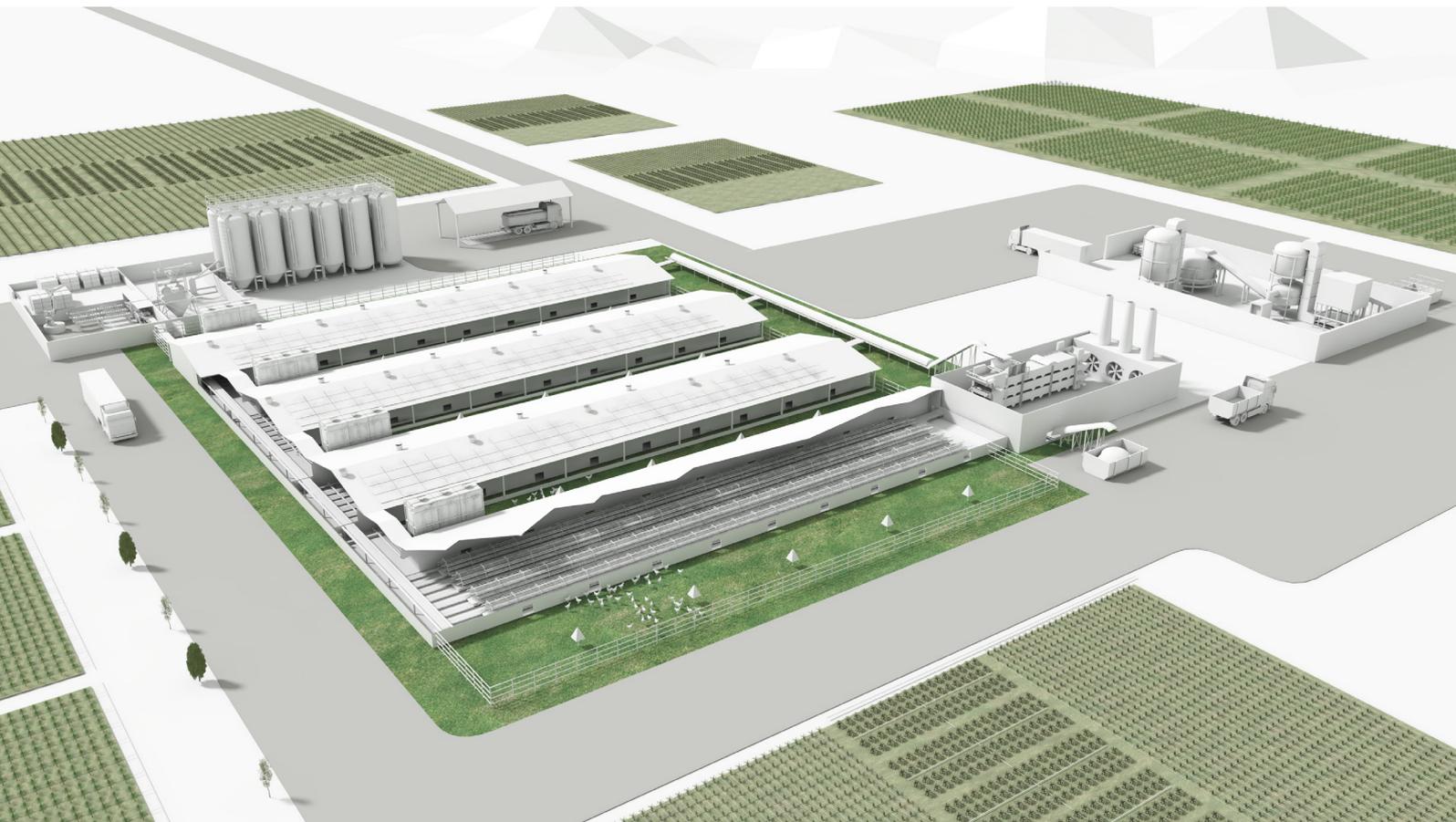
Livestock farms require ventilation systems that will maintain the right temperature, humidity and air quality to ensure an efficient and sustainable production and animal welfare.

The productivity of a livestock farm is dependent and very sensitive to environment conditions in the livestock houses. For example, egg-laying chickens on a poultry farm can be particular. 18 to 24 degrees Celsius is perfect for egg production, but as temps begin to creep into the 30s, egg size may be reduced, shell quality may suffer, and the chickens will lay eggs less often. Anything hotter than 32 leads to discomfort, reduced appetite and agitation, and 38 degrees Celsius is where the chickens' health begins to suffer. This requires ventilation systems that deliver fresh air inside poultry houses while removing excess heat, moisture and undesirable gases.

Controlling ventilation fans with variable speed drives (VSDs), teamed with high efficiency motors can help fine-tune the conditions inside poultry houses. As well as improving the welfare

of the animals, this approach can often reduce the energy use by up to 40 percent.

In emergency situations, it should be possible to switch VSDs to an override mode and run fans according to the chosen strategy, ignoring warnings and faults. This allows extended fan runtime in adverse conditions. ABB's ventilation bypass switches offer a way to eliminate downtime resulting of VSD failure and keep the fans running.



# Bypass switches for ventilation fans with Variable Speed Drives (VSD)

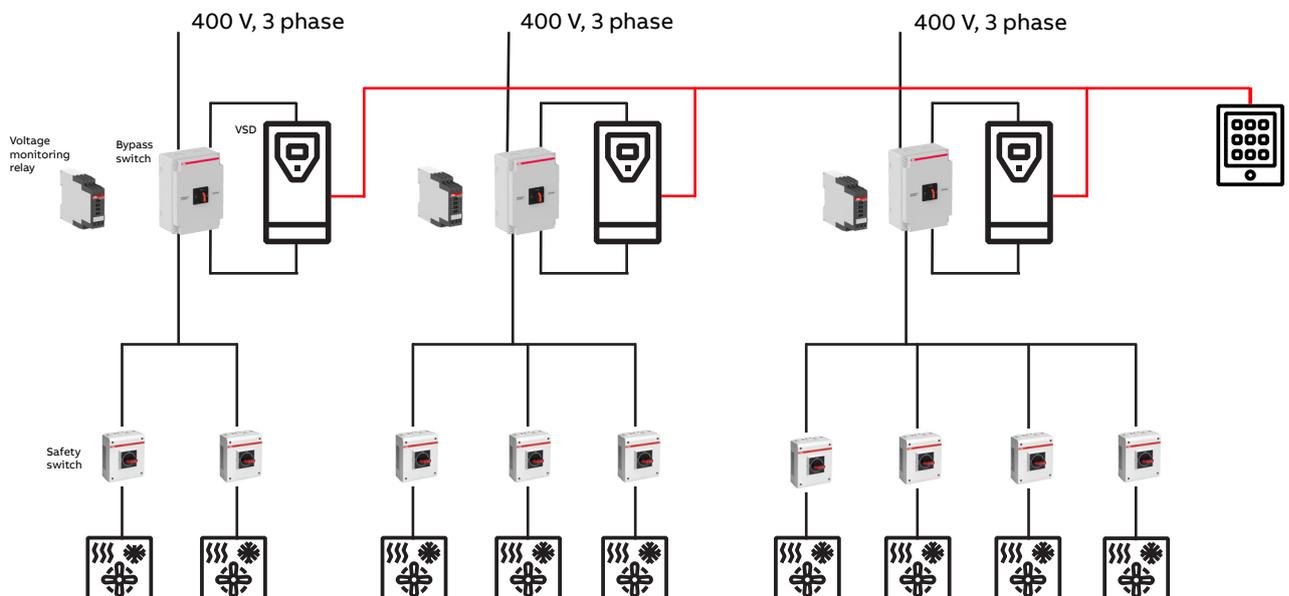
Bypass switches help to prevent downtime resulting due to VSD failure

In some countries, insurance companies specify a minimum ventilation capacity of 75% during failure of power of control electronics. This can be complied with by using ABB's ventilation bypass switches, which would support ventilation fans to run direct online.

By adding an additional voltage monitoring relay\*, you can increase the reliability of the ventilation fan. This control device provides intelligent signals and smart adjustments that

help you achieve maximum system availability and take immediate action by switching on the alternative backup supply (genset).

These voltage monitoring relay can be installed inside the bypass switch, which monitors under/overvoltage or phase loss condition.



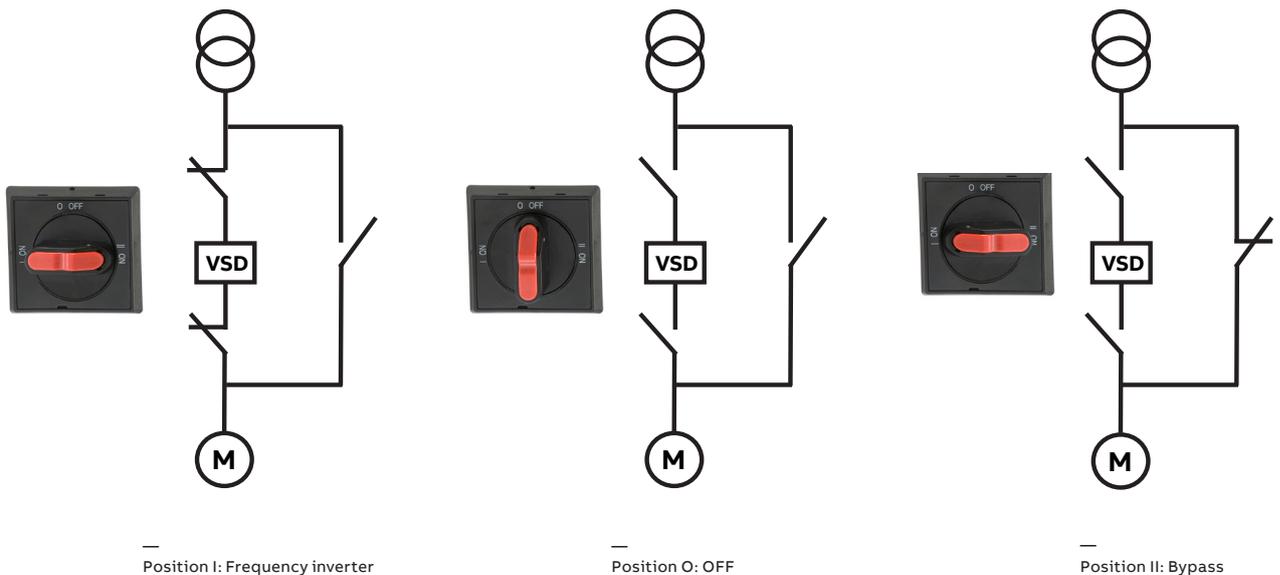
Application example: ventilation system with variable speed drives, including bypass switches and voltage monitoring relays.

\*Voltage monitoring relay not included in the delivery

# Bypass switches for ventilation fans with Variable Speed Drives (VSD)

With three stable positions, the Bypass switch is easy to operate and install.

The switch has three stable positions: I (Frequency inverter), 0 (OFF), and II (Bypass). One can override the VSDs by putting the switch into bypass mode and continue running the fans, thus maintaining ventilation.



# Bypass switches for ventilation fans with Variable Speed Drives (VSD)

ABB's enclosed bypass switches keep your operations running. They provide a reliable, simple and safe way of bypassing equipment in case of malfunction or when maintenance is needed.



## Robust design

The bypass switch has been designed for safe and reliable performance in environments with electromagnetic disturbances (EMC), with full compliance with IEC 61000-6-3/4 or EN 55011, according to EU directive 2004/108/EC.

The enclosures are made of high-quality, corrosion-free UV-resistant material, suitable for indoor and outdoor use. With an ingress protection of IP65, the unit will be well protected against dust and water when washed.

**Ingress protection  
IP65**



## Easy installation

The bypass switch is an all-in-one solution that is easy to install and saves space.

The required hardware is included in the delivery: jumper cable kit, EMC connectors and a wall-mounting provision.

The installation is simple and fast: the ready jumper cable kit eliminates the need of measuring and cutting jumpers during installation. EMC connectors are also included, so no pigtails are needed.

The delivery includes 3 auxiliary contacts available for routing additional signals (signaling if the switch is at bypass).

**3  
auxiliary contacts  
for signaling**



## Safety and protection

The switch has a clear three position indication (I-Frequency inverter, O-OFF, II-Bypass).

It also has provision for mounting a voltage monitoring relay inside the enclosure\*.

\*The voltage monitoring relay is not included in the delivery

## Ordering information



### Enclosed bypass switches

- 3 position bypass: "Frequency inverter", "0" and "Bypass position"
- Enclosure in UV protected polycarbonate for indoor and outdoor use. IP65 ingress protection
- 4pcs M32/40 + 2pcs M16 cable entry knock-out holes
- EMC approved, EMC connectors included
- Black, lockable selector handle
- 3 auxiliary contacts available for signaling (when in Bypass position)
- Place for voltage monitoring relay on side of the switch (not included in the delivery)

Current rating AC-23B, 480V [A]	Cable openings/side	Enclosure dimensions			Type	Order number	Weight /unit kg
		Height mm	Width mm	Depth mm			
25	2X Ø40.5+ Ø20.5/ 2X Ø40.5+ Ø20.5	300	216	136	OTDCP25YD	1SCA162084R1001	2.793
40		300	216	136	OTDCP40YD	1SCA162046R1001	2.793



### Voltage monitoring relay (optional additional accessory)

The three-phase monitoring relays are designed for use in three-phase mains for monitoring the phase parameters like phase sequence, phase failure, over- and undervoltage, as well as phase unbalance.

Rated control supply voltage=measuring voltage	Connection technology	Type	Order number	Weight /unit
				kg
3 X 300 - 500 V AC	Screw terminals	CM-PVS.41S	1SVR730794R3300	0.139
	Push-in terminals	CM-PVS.41P	1SVR740794R3300	0.131



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**ABB Electrification**

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**[www.abb.com/contacts](http://www.abb.com/contacts)**

**> Low Voltage Products and Systems**