

i550 protec

variable frequency drive



Resilient and trusted, the **i550 protec** variable frequency drive (VFD) is purpose-built to withstand harsh environments outside the control cabinet or close to the motor. Its compact size in the power range 0.5 hp to 100 hp (0.37 to 75 kW) makes this versatile and reliable drive the right solution in various applications where adverse climates persist.

The same tried-and-tested technology used in our **i550 cabinet** is replicated in the i550 protec. This ensures familiarity and dependability with more housing protection and adapted design. It also fits well with any modern controller/PLC thanks to its many supported fieldbuses.

With its scalable functionality and exceptional user-friendliness, the i550 protec solves many typical challenges beyond machine performance.

Suited for the following applications

- Pump
- Fan
- Conveyor
- Traverse
- Winder
- Extruder
- Packaging

Features and Benefits

- **Low installation cost and improved ROI**
- **First decentralized drive in the market with IO-Link interface V1.1**
- **Ready for adverse climates** utilizing NEMA enclosures opens the possibility for drive mounting in any setting
 - NEMA 1 (IP20) protection against dust and falling debris
 - NEMA 4X/12 (IP66/IP55) protection from high-pressure water from any direction/protection from dust
- **Convenient motor maintenance** thanks to optional integrated disconnect switch
- **Flexible communication options** – use the controller of your choice
- **Easy commissioning and diagnostics** with keypad, WLAN module or integrated micro USB
- **Available “Safe Torque Off (STO)”** as an option with SIL 3 (EN IEC 62061/EN IEC 61508) and Performance Level e (EN ISO 13849-1)

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Design/Mounting	Wall
Degree of protection	NEMA 1 (IP20), NEMA 12/4X (IP55/IP66)
Mains connection/Power range	
1 AC 120V	0.5 ... 1.5 hp (0.37 ... 1.1 kW)
1 AC 230V	0.5 ... 3 hp (0.37 ... 2.2 kW)
1/3 AC 230V	0.5 ... 4 hp (0.37 ... 3 kW)
3 AC 230V	4 ... 60 hp (3 ... 45 kW)
3 AC 400V/480V	0.5 ... 100 hp (0.37 ... 75 kW)
3 AC 600V	1 ... 60 hp (0.75 ... 45 kW)
Market approvals	
Approval	CE, UKCA, UL, CSA, CCC, UKSepco
Environment	RoHS
Energy efficiency	IE2 according to EN IEC 61800-9-2
Functions	
Motor controls	Energy-saving function (VFC eco), V/f characteristic control linear/square-law (VFC plus), sensorless vector control (SLVC), sensorless control for synchronous motors Closed-loop vector with HTL encoder (100 kHz)
Properties	DC-injection braking, brake management for low-wear brake control, dynamic braking via brake resistor, S-ramps for smooth acceleration and deceleration, flying restart circuit, PID control, cascade function for pumps and fans Sequencer (16 steps), operation on UPS Dynamic braking through resistor
Functional safety	Safe torque off (STO)
Overload behavior	200 % for 3 s; 150 % for 60 s
Cooling	
Ambient operating temperature	3K3 (-22 ... +140 °F) EN IEC 60721-3-3 (derating of 2.5 %/°C above +104 °F)
Inputs/Outputs	
Digital input/output	5/1
Analog input/output	2/1
NO/NC relay	1
IO-Link	
Operation	Device
Communication	
	CANopen EtherCAT EtherNet/IP IO-Link Modbus RTU Modbus TCP PROFINET
Diagnostics	
	Keypad, WLAN module, Micro USB
Compliances	
EN 61000-3-2	> 1.5 hp up to 16 A: no additional measures, < 1.5 hp: with mains choke > 16 A: with mains choke
EN 61000-3-12	From 40 hp mains choke integrated
EMC category C1	Max. 10 ft up to 3 hp
EMC category C2	Max. 66 ft up to 15 hp > 15 hp 600 in
RCD operation	
	Up to 15 hp: 30 mA