

# Product comparison

Servo drive  
i750 cabinet



Servo drive  
i950 cabinet



<b>Design/mounting</b>	Control cabinet	Control cabinet
<b>Degree of protection</b>	IP20	IP20

## Mains connection/power range

	i750 cabinet	i950 cabinet
<b>1 AC 230/240 V</b>	-	0.37 ... 1.5 kW
<b>3 AC 230/240 V</b>	1.1 ... 30 kW	0.37 ... 5.5 kW
<b>3 AC 400/480 V</b>	1.1 ... 30 kW	0.55 ... 110 kW

## Market approvals

	i750 cabinet	i950 cabinet
<b>CE</b>	✓	✓
<b>UKCA</b>	✓	✓
<b>cULus</b>	✓	✓
<b>RoHS</b>	✓	✓
<b>Energy efficiency</b>	Class IE2	Class IE2

## Ambient conditions

	i750 cabinet	i950 cabinet
<b>Degree of pollution</b>	2	2
<b>Vibration resistance during operation</b>	Up to 1 g	Up to 1 g
<b>Insulation resistance</b>	Category III	Category III
<b>Operation (EN 60721-3-3)</b>	3K3 (-10 ... +55 °C)	3K3 (-10 ... +55 °C)
<b>Derating</b>	2.5 % / °C above 40 °C	2.5 % / °C above 45 °C
<b>Storage (EN 60721-3-1)</b>	1K3 (-25 ... +60 °C)	1K3 (-25 ... +60 °C)
<b>Transport (EN 60721-3-2)</b>	2K3 (-25 ... +70 °C)	2K3 (-25 ... +70 °C)

## Control connections

	i750 cabinet	i950 cabinet
<b>Digital inputs</b>	2	4 (optional: 5 / 4)
<b>Digital outputs</b>	-	- (optional: 5 / 2)
<b>Analog inputs</b>	-	1 (optional 0 / 1)
<b>Analog outputs</b>	-	- (optional (0 / 1)
<b>Relay</b>	-	-

✓ = standard, O = option, P = planned

## Protective measures

	i750 cabinet	i950 cabinet
<b>Earth-fault protected</b>	✓	✓
<b>Short-circuit-proof</b>	✓	✓
<b>Overvoltage-proof</b>	✓	✓
<b>Motor stall protection</b>	✓	✓
<b>Motor overtemperature</b>	PT 1000, I <sup>2</sup> xT	PT 1000, I <sup>2</sup> xT
<b>Wiring check</b>	✓	✓

## Operation on public networks

	i750 cabinet	i950 cabinet
<b>Device below 1 kW (EN IEC 61000-3-2)</b>	-	With Mains choke
<b>Devices above 1 kW up to 16 A (EN IEC 61000-3-2)</b>	✓	✓
<b>Devices above 16 A up to 75 A (EN IEC 61000-3-12)</b>	With mains choke	With Mains choke

## Motor cable lengths

	i750 cabinet	i950 cabinet
<b>EMC category C1</b>	-	-
<b>EMC category C2</b>	Depending on the number of axes	Max. 20 m above this with filter

## Fusing

	i750 cabinet	i950 cabinet
<b>Fuses, characteristic</b>	gG/gI or gRL	gG/gI or gRL
<b>Circuit breakers, characteristic</b>	C	B or C
<b>Residual current devices (RCD), characteristic</b>	-	Type B

## Communication

	i750 cabinet	i950 cabinet
<b>CANopen</b>	-	0
<b>EtherCAT</b>	✓	✓
<b>EtherNet/IP</b>	-	0
<b>IO-Link</b>	-	-
<b>Modbus RTU</b>	-	-
<b>Modbus TCP</b>	-	-
<b>POWERLINK</b>	-	-
<b>PROFIBUS</b>	-	0
<b>PROFINET</b>	-	0
<b>Digital frequency</b>	-	0

## Feedback

	i750 cabinet	i950 cabinet
<b>HIPERFACE DSL® absolute value encoder (One Cable Technology OCT)</b>	0	✓ (up to 22 kW)
<b>Resolver</b>	0	0
<b>HIPERFACE® SinCos absolute value encoder</b>	0	0
<b>Endat (V2.1&amp;V2.2) SinCos absolute value encoder</b>	0	0
<b>SSI absolute value encoder</b>	0	0
<b>SSI SinCos absolute value encoder</b>	0	0

	i750 cabinet	i950 cabinet
<b>TTL incremental encoder</b>	O	O
<b>HTL incremental encoder</b>	-	O

## Motor controls

	i750 cabinet	i950 cabinet
<b>V/f characteristic control</b>	✓	✓
<b>Vector control for asynchronous motors</b>	✓	✓
<b>Vector control for synchronous motors</b>	✓	✓
<b>Vector control for synchronous motors with frequency support at low speeds</b>	✓	✓
<b>V/f characteristic control with feedback</b>	✓	✓
<b>Vector control for asynchronous motors with feedback</b>	✓	✓

## Additional functions for the motor controls

	i750 cabinet	i950 cabinet
<b>Auto-tuning</b>	✓	✓
<b>Boost</b>	✓	✓
<b>Slip compensation</b>	✓	✓
<b>Oscillation damping</b>	✓	✓
<b>Torque control</b>	✓	✓
<b>Skip frequencies</b>	✓	✓
<b>Motor stall protection</b>	✓	✓
<b>Motor monitoring</b>	✓	✓

## Component control/additional functions

	i750 cabinet	i950 cabinet
<b>Fixed frequencies (jog values)</b>	-	-
<b>Motor potentiometer</b>	-	-
<b>Sequence control</b>	-	-
<b>Logic PLC</b>	O (with controller and FAST)	O (With controller and FAST)
<b>Table positioning</b>	O (With controller and FAST)	O (Technology application)
<b>PID controller</b>	-	-
<b>Position counter</b>	-	-
<b>Parameter set changeover</b>	-	-
<b>Oscilloscope function</b>	✓	✓

## Technology applications

	i750 cabinet	i950 cabinet
<b>Speed Control</b>	✓ (With controller and FAST)	O
<b>Table Positioning</b>	✓ (With controller and FAST)	O
<b>Electronic Gearbox</b>	✓ (With controller and FAST)	O
<b>Sync and Correction</b>	✓ (With controller and FAST)	O
<b>Winder Dancer</b>	✓ (With controller and FAST)	O
<b>Winder Tension</b>	✓ (With controller and FAST)	O
<b>CI A 402 Advanced</b>	✓ (With controller and FAST)	O
<b>AC Drive Profile</b>	✓ (With controller and FAST)	O

## Energy efficiency

	i750 cabinet	i950 cabinet
<b>Energy compensation</b>	✓	✓
<b>Energy-saving function "VFC eco"</b>	✓	✓
<b>Regenerative feedback mode</b>	✓	✓

## Additional motor functions

	i750 cabinet	i950 cabinet
<b>Flying restart circuit</b>	✓	✓
<b>DC-injection brake</b>	✓	✓
<b>Holding brake control</b>	✓	✓
<b>Switching frequency setting</b>	✓	✓

## System protection

	i750 cabinet	i950 cabinet
<b>Access protection</b>	✓	✓
<b>Temperature monitoring</b>	✓	✓

✓ = standard, O = option, P = planned

	i750 cabinet	i950 cabinet
<b>Mains failure control</b>	✓	✓
<b>Operation on a UPS</b>	-	-

## Safe stop functions

	i750 cabinet	i950 cabinet
<b>Safe Torque Off (STO)</b>	✓	✓
<b>Safe stop 1 (SS1)</b>	O	O
<b>Safe stop emergency (SSE)</b>	O	O
<b>Safe stop 2 (SS2)</b>	O	O
<b>Safe Operational Stop (SOS)</b>	O	O
<b>Safe brake control (SBC)</b>	O	O
<b>Cascading STO (CAS)</b>	O	O

## Safe monitoring functions

	i750 cabinet	i950 cabinet
<b>Safe maximum speed (SMS)</b>	O	O
<b>Safely limited speed (SLS)</b>	O	O
<b>Safe speed monitoring (SSM)</b>	O	O
<b>Safely limited increment (SLI)</b>	O	O
<b>Safe direction (SDI)</b>	O	O
<b>Safely limited position (SLP)</b>	O	O
<b>Position dependent safe speed (PDSS)</b>	O	O
<b>Safe cam (SCA)</b>	O	O

## Auxiliary and maintenance functions for functional safety

	i750 cabinet	i950 cabinet
<b>Safe Homing (SHom)</b>	O	O
<b>Operation mode selector (OMS)</b>	O	O
<b>Repair mode selector (RMS)</b>	O	O
<b>Enable switch (ES)</b>	O	O
<b>Safe Muting (MUT)</b>	O	O

## Safety bus

	i750 cabinet	i950 cabinet
<b>FSoE</b>	O	O
<b>CIP Safety</b>	-	-
<b>PROFIsafe</b>	-	O

## Options

	i750 cabinet	i950 cabinet
<b>Mains connection</b>	- (terminals)	- (terminals)
<b>Motor connection</b>	- (terminals)	- (terminals)
<b>I/Os</b>	Basic-I/O (standard)	Basic-I/O (standard), additional digital I/O module or Extended-I/O module
<b>Feedback</b>	One Cable Technology OCT, resolver or multi encoder	One Cable Technology OCT, resolver, multi encoder or digital frequency
<b>Functional safety</b>	Basic Safety - STO, Advanced Safety - L or Extended Safety - L	Basic Safety - STO or Extended Safety - LT
<b>Diagnostics</b>	onboard EtherCAT (with controller)	onboard EtherCAT, diagnostic interface