

# AxN Drives

Configurable Motion  
Control Platform

## Supported Models

Size 2  
AxN 15.30.4

Size 3  
AxN 22.44.4  
AxN 35.70.4  
AxN 50.100.4

Size 4  
AxN 70.140.4

Size 5  
AxN 90.150.4  
AxN 110.200.4





# New AC drive AxN

NEW AC DRIVE AXN HAS BEEN 100% DEVELOPED BY PHASE MOTION CONTROL AND IS THE PERFECT PARTNER FOR U3 SERIES SERVOMOTORS AS WELL AS FOR TK SERIES TORQUE MOTORS.

AxN means a complete current range between 15 Arms and 110 Arms in 4 sizes, together with several interfaces: analogue ( $\pm 10V$ ), fieldbus (CANOpen and EtherCAT), pulse and direction.

AxN is featuring a complete set of analogue and digital I/Os and a multiport encoder interface for the most common digital protocols (EnDat, Hiperface) as SinCos, TTL or resolver. Basic concepts behind AxN are: robustness (all internal components are soldered and all the connectors have been designed in order to withstand even the worst environmental conditions in terms of vibrations and mechanical stresses), flexibility (a multipurpose cooling plate allows mounting in three different ways: fan cooled with heat sink internal to cabinet, fan cooled with external heat sink to avoid need of expensive air conditioners in the cabinet, or an optional water cooled version), technology: best in class control loops (current: 1  $\mu s$  cycle time, speed: 125  $\mu s$  cycle time, position: 125  $\mu s$  cycle time), new high performance voltage control algorithm for field weakening (till 10 times knee speed) even in highly dynamic applications. Internal PLC programmability (IEC61131-3 standard languages) and a complete free of charge software management and tuning tools fulfills the features of the new AxN drives by Phase Motion Control.





# New AC drive AxN

New AC drive AxN has been developed by Phase Motion Control and is the perfect partner for U3 brushless motors and for TK torque motors.

**AxN means a complete power range between 15 Arms to 200 Arms in 4 sizes, together with several built in interface: analogue (+/-10V), fieldbus (CANOpen and EtherCAT), pulse and direction.**

## Basic concepts

**Robustness:** all internal components are soldered and all the connectors have been designed in order to stand even the worst environmental conditions in terms of vibrations and mechanical stresses.

**Flexibility:** mounting possible in three ways: fan cooled with heat sink internal to cabinet, fan cooled with external heat sink to avoid need of expensive air conditioners in the cabinets, or an optional water cooled version.

**Technology:** Internal PLC programmability (IEC61131-3 standard languages) and a complete free of charge software management and tuning tools fulfills the features of the new AxN drives by Phase Motion Control.

## General Main Characteristics

- » Power Supply Voltage: 150 – 500 Vac [50/60 Hz] 3 phase
- » DC Power Supply Voltage: 0 – 800 Vdc
- » Auxiliary power Supply: 20-30 Vdc
- » PWM frequency: from 4 to 16 kHz
- » Cooling: Fan cooled, Water cooled (option)
- » Protection degree: IP20

## Main hardware features

- » Programmable reference current/speed from:
  - » analog Input;
  - » pulse and direction;
  - » encoder master;
  - » fieldbuses;
  - » or plc parameters.
- » Current loop cycle time: 1us
- » Speed Loop/Position Loop: 125us





## Mode of Operation

- » Profile position mode
- » Profile velocity mode
- » Interpolated position Mode
- » Torque Mode
- » Homing mode
- » Cyclic Synchronous Position mode (CSP)
- » Cyclic Synchronous Velocity mode (CSV)
- » Cyclic Synchronous Torque mode (CST)
- » Field Weakening Capability

## Main software features

- » Internal PLC – LogicLab IEC61131-3 Integrated Development Environment.
- » Configuration and control tool: Cockpit 3.
- » Integrated powerful debugging tool: SoftScope.
- » Multilanguage support: English, Chinese and Italian

## Feedbacks

- » Resolver 2poles
- » Endat 2.2 Heidenhain encoder
- » Hiperface Sick Stegmann encoder
- » SinCos 5 tracks encoder
- » Digital TTL encoder
- » Hall sensors
- » Auxiliary digital encoder input or 1 simulated encoder + index output

## General Purpose Interface

- » Nr.2 programmable differential / 4 single ended analog input  $\pm 10$  V (1mV resolution)
- » Nr.2 programmable analog outputs 0-10V (1mV resolution)
- » Nr.8 programmable digital inputs
- » Nr.4 programmable digital outputs

## Communication

- » Analog  $\pm 10$ V
- » Serial port RS232/422/485
- » CANOpen port (Standard DS301 V4.02 - DSP402 V2.0)
- » EtherCAT – COE (CANOpen over EtherCAT protocol).

## STO Function

STO Safety Function Performance (TUV certified).

STO function on AxN servo drive accords to IEC EN 61800-5-2:2007.

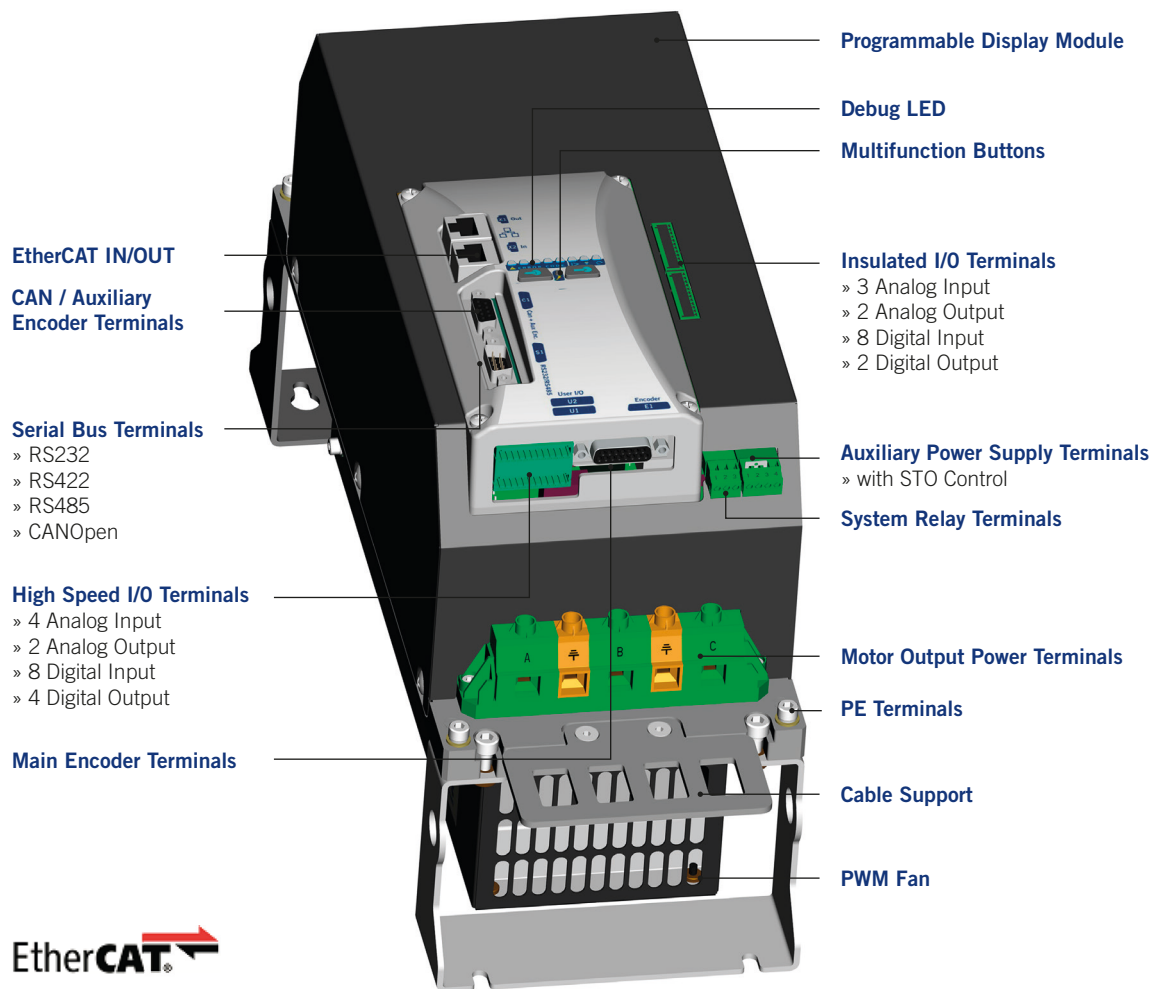
SIL CAPABILITY: the comparison between PFH value, SFF value and HFT value shows that STO function on AxN servo drive reach a level of SIL3.



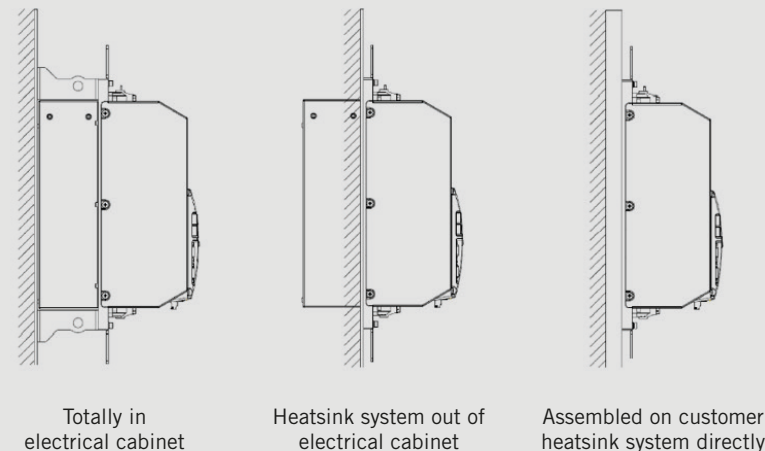




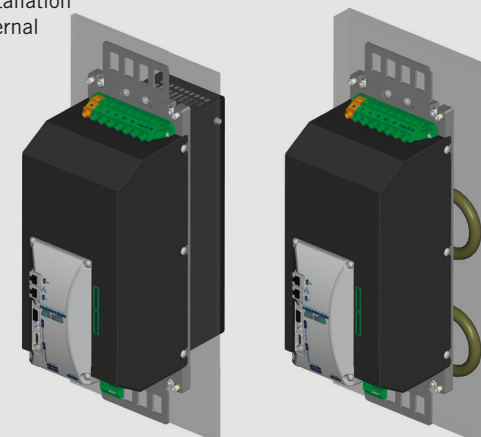
# Hardware connections



# Assemble



**Flexible Installation Form**  
 Standard Cabinet Installation  
 Through Panel Installation  
 Heat Conducting Base Installation  
 Internal fan cooling or external water cooling





# AxN Size 2

AxN 15.30.4



Technical specifications <sup>(1)</sup>	Symbol	AxN 15.30.4	Units
Power Supply Voltage	$V_{in}$	150 ~ 500	Vac 3 phase
		0 ~ 800	Vdc
Auxiliary supply voltage	$V_{aux}$	24V ± 15% / 2A	Vdc
Output frequency	$f$	0 ~ 1200	Hz
Current output, S1 <sup>(2)</sup>	$I_n$	15	Arms
Peak current <sup>(2)</sup>	$I_p$	30	Arms
Power Losses total <sup>(3)</sup>	$P_l$	200	W
Maximum output voltage	$V_{out}$	$V_{in} \times 0.95$	Vac
PWM frequency <sup>(4)</sup>	$f_{pwm}$	4 / 8 / 16	kHz
Efficiency at nominal power <sup>(2)</sup>	--	97.9	%
Input form factor (Full load)	--	0.9	Vac 3 phase
Maximum braking current	--	100% of $I_p$ (peak current)	--
Cooling	--	1 fan 60x60x32	--
Flow rate	--	70	m <sup>3</sup> / hour
Dimensions (HxDxW)	--	420x249x96	mm

<sup>(1)</sup> Test performed with full option control card and firmware 1.8.197

<sup>(2)</sup>  $V_{in} = 380$  Vac,  $V_{out} = V_{in} \times 0.95$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz

<sup>(3)</sup>  $V_{in} = 380$  Vac,  $I_{out} = I_n$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz, Including input rectifier losses

<sup>(4)</sup> PWM frequency will automatically decrease at Zero speed, in order to keep Nominal current output

**Motor Feedback Options**

<b>Main Encoder (500kHz)</b>	Sincos encoder 5 channels (2 absolute analog tracks/2 incremental analog tracks/index)
	Incremental encoder (1 Vpp or Different Line Driver)
	Sensorless algorithm (w/o feedback)
	Endat serial encoder 1.0 to 2.2 (default)
	Resolver
	Hiperface encoder
<b>Secondary Encoder (500kHz)</b>	Incremental digital encoder without commutation tracks (500kHz)
	Endat serial encoder

**Programmable Input Signals**

<b>2 Differential / 4 single ended analog inputs</b>	± 10V (1mV) / Rin = 10kΩ
<b>8 digital inputs</b>	20-30V / Rin = 6.6kΩ to GND
<b>2 Insulated analog inputs (optional)</b>	± 10V (1mV)
<b>8 Insulated digital inputs (optional)</b>	5mA, 24 Vdc max

**Programmable Output Signals**

<b>2 analog outputs</b>	0-10V (1mV) FS (30mA)
<b>4 digital outputs</b>	PNP open collector 24V (100mA)
<b>1 watch dog relay</b>	2A/30Vdc, 0.25A/250Vac, NO/NC contacts
<b>2 insulated analog output (optional)</b>	± 10V (1mV) FS (30mA)
<b>2 insulated digital output (optional)</b>	On.off switch, 9-28V/2A

**Hardware Configuration**

Processor speed: 80 MIPS μC + FPGA / 120 MIPS μC + FPGA Extreme Version (Optional)

Task frequency:

- » Current /drive monitoring: 1 MHz
- » Position/speed loop: 8 kHz
- » PLC fast task: 8 kHz
- » PLC slow task: 15.625 Hz to 1 kHz user-programmable

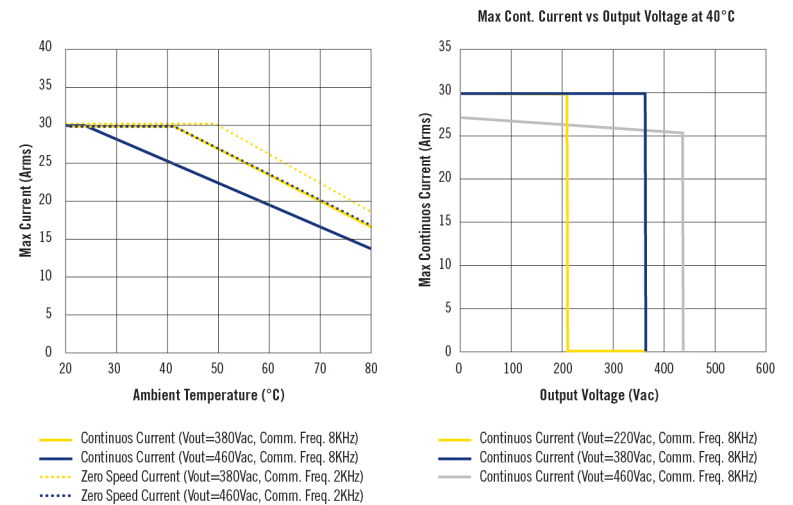
Position loop mode available

Target position register: 32 or 64 bits

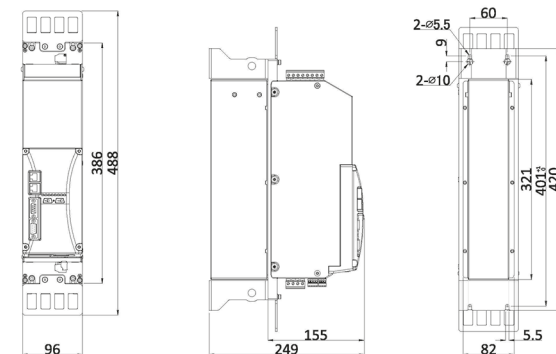
Full digital control Id/Iq, updated 16 kHz

**Drive Operational Area of AxN Size 2**

AxN 15.30.4



**Overall Dimensions**



# AxN Size 3

AxN 22.44.4; AxN 35.70.4; AxN 50.100.4



Technical specifications <sup>(1)</sup>	Symbol	AxN 22.44.4	AxN 35.70.4	AxN 50.100.4	Units
Power Supply Voltage	$V_{in}$	150 ~ 500			Vac 3 phase
		0 ~ 800			Vdc
Auxiliary supply voltage	$V_{aux}$	24V ± 15% / 2A			Vdc
Output frequency	$f$	0 ~ 1200			Hz
Current output, S1 <sup>(2)</sup>	$I_n$	22	35	50	Arms
Peak current <sup>(2)</sup>	$I_p$	44	70	100	Arms
Power Losses total <sup>(3)</sup>	$P_l$	280	400	590	W
Maximum output voltage	$V_{out}$	$V_{in} \times 0.95$			Vac
PWM frequency <sup>(4)</sup>	$f_{pwm}$	4 / 8 / 16			kHz
Efficiency at nominal power <sup>(2)</sup>	--	98	98.2	98.1	%
Input form factor (Full load)	--	0.9			Vac 3 phase
Maximum braking current	--	100% of $I_p$ (peak current)			--
Cooling	--	1 PWM fan 80x80x38			--
Flow rate	--	136			m <sup>3</sup> / hour
Dimensions (HxDxW)	--	488x249x150			mm

<sup>(1)</sup> Test performed with full option control card and firmware 1.8.197

<sup>(2)</sup>  $V_{in} = 380$  Vac,  $V_{out} = V_{in} \times 0.95$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz

<sup>(3)</sup>  $V_{in} = 380$  Vac,  $I_{out} = I_n$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz, Including input rectifier losses

<sup>(4)</sup> PWM frequency will automatically decrease at Zero speed, in order to keep Nominal current output



**Motor Feedback Options**

<b>Main Encoder (500kHz)</b>	Sincos encoder 5 channels (2 absolute analog tracks/2 incremental analog tracks/index)
	Incremental encoder (1 Vpp or Different Line Driver)
	Sensorless algorithm (w/o feedback)
	Endat serial encoder 1.0 to 2.2 (default)
	Resolver
	Hiperface encoder
<b>Secondary Encoder (500kHz)</b>	Incremental digital encoder without commutation tracks (500kHz)
	Endat serial encoder

**Programmable Input Signals**

<b>2 Differential / 4 single ended analog inputs</b>	± 10V (1mV) / Rin = 10kΩ
<b>8 digital inputs</b>	20-30V / Rin = 6.6kΩ to GND
<b>2 Insulated analog inputs (optional)</b>	± 10V (1mV)
<b>8 Insulated digital inputs (optional)</b>	5mA, 24 Vdc max

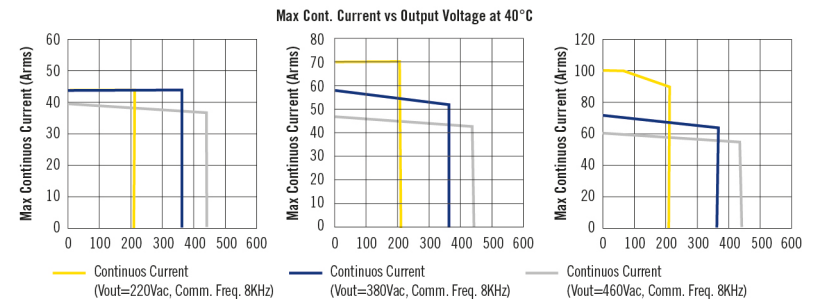
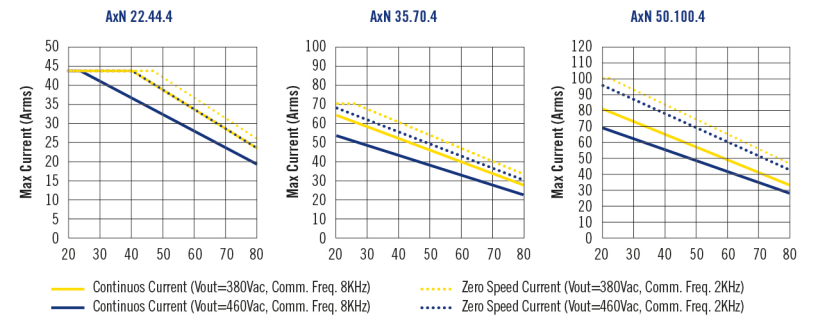
**Programmable Output Signals**

<b>2 analog outputs</b>	0-10V (1mV) FS (30mA)
<b>4 digital outputs</b>	PNP open collector 24V (100mA)
<b>1 watch dog relay</b>	2A/30Vdc, 0.25A/250Vac, NO/NC contacts
<b>2 insulated analog output (optional)</b>	± 10V (1mV) FS (30mA)
<b>2 insulated digital output (optional)</b>	On.off switch, 9-28V/2A

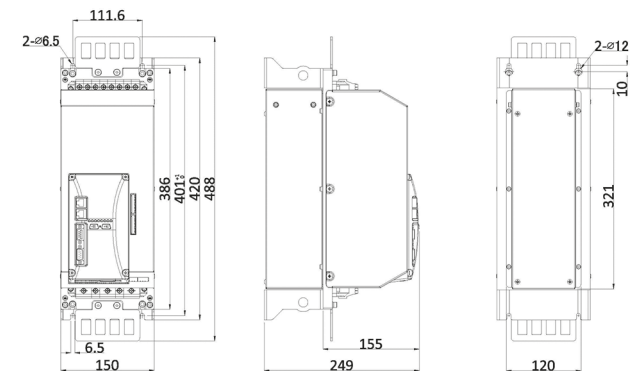
**Hardware Configuration**

Processor speed: 80 MIPS  $\mu$ C + FPGA / 120 MIPS  $\mu$ C + FPGA Extreme Version (Optional)  
 Task frequency:  
 » Current /drive monitoring: 1 MHz  
 » Position/speed loop: 8 kHz  
 » PLC fast task: 8 kHz  
 » PLC slow task: 15.625 Hz to 1 kHz user-programmable  
 Position loop mode available  
 Target position register: 32 or 64 bits  
 Full digital control Id/Iq, updated 16 kHz

**Drive Operational Area of AxN Size 3**



**Overall Dimensions**



# AxN Size 4

AxN 70.140.4



Technical specifications <sup>(1)</sup>	Symbol	AxN 70.140.4	Units
Power Supply Voltage	$V_{in}$	150 ~ 500	Vac 3 phase
		0 ~ 800	Vdc
Auxiliary supply voltage	$V_{aux}$	24V ± 15% / 6A	Vdc
Output frequency	$f$	0 ~ 1200	Hz
Current output, S1 <sup>(2)</sup>	$I_n$	70	Arms
Peak current <sup>(2)</sup>	$I_p$	140	Arms
Power Losses total <sup>(3)</sup>	$P_l$	870	W
Maximum output voltage	$V_{out}$	$V_{in} \times 0.95$	Vac
PWM frequency <sup>(4)</sup>	$f_{pwm}$	4 / 8 / 16	kHz
Efficiency at nominal power <sup>(2)</sup>	--	98.1	%
Input form factor (Full load)	--	0.9	Vac 3 phase
Maximum braking current	--	100% of $I_p$ (peak current)	--
Cooling	--	2 PWM fan 80x80x38	--
Flow rate	--	110x2	m <sup>3</sup> / hour
Dimensions (HxDxW)	--	488x249x200	mm

<sup>(1)</sup> Test performed with full option control card and firmware 1.8.197

<sup>(2)</sup>  $V_{in} = 380$  Vac,  $V_{out} = V_{in} \times 0.95$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz

<sup>(3)</sup>  $V_{in} = 380$  Vac,  $I_{out} = I_n$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz, Including input rectifier losses

<sup>(4)</sup> PWM frequency will automatically decrease at Zero speed, in order to keep Nominal current output

**Motor Feedback Options**

<b>Main Encoder (500kHz)</b>	Sincos encoder 5 channels (2 absolute analog tracks/2 incremental analog tracks/index)
	Incremental encoder (1 Vpp or Different Line Driver)
	Sensorless algorithm (w/o feedback)
	Endat serial encoder 1.0 to 2.2 (default)
	Resolver
<b>Secondary Encoder (500kHz)</b>	Hiperface encoder
	Incremental digital encoder without commutation tracks (500kHz)
	Endat serial encoder

**Programmable Input Signals**

<b>2 Differential / 4 single ended analog inputs</b>	± 10V (1mV) / Rin = 10kΩ
<b>8 digital inputs</b>	20-30V / Rin = 6.6kΩ to GND
<b>2 Insulated analog inputs (optional)</b>	± 10V (1mV)
<b>8 Insulated digital inputs (optional)</b>	5mA, 24 Vdc max

**Programmable Output Signals**

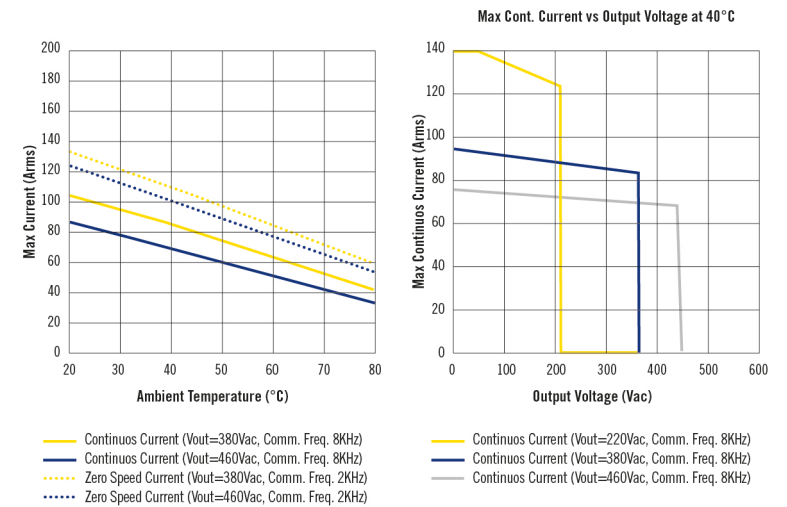
<b>2 analog outputs</b>	0-10V (1mV) FS (30mA)
<b>4 digital outputs</b>	PNP open collector 24V (100mA)
<b>1 watch dog relay</b>	2A/30Vdc, 0.25A/250Vac, NO/NC contacts
<b>2 insulated analog output (optional)</b>	± 10V (1mV) FS (30mA)
<b>2 insulated digital output (optional)</b>	On.off switch, 9-28V/2A

**Hardware Configuration**

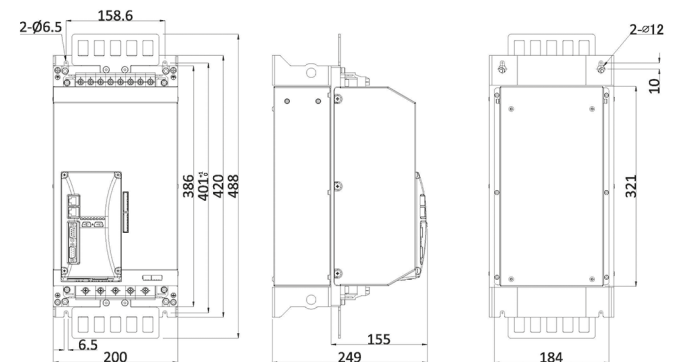
Processor speed: 80 MIPS  $\mu$ C + FPGA / 120 MIPS  $\mu$ C + FPGA Extreme Version (Optional)  
 Task frequency:  
 » Current /drive monitoring: 1 MHz  
 » Position/speed loop: 8 kHz  
 » PLC fast task: 8 kHz  
 » PLC slow task: 15.625 Hz to 1 kHz user-programmable  
 Position loop mode available  
 Target position register: 32 or 64 bits  
 Full digital control Id/Iq, updated 16 kHz

**Drive Operational Area of AxN Size 4**

AxN 70.140.4



**Overall Dimensions**





# AxN Size 5

AxN 90.150.4; AxN 110.200.4



Technical specifications <sup>(1)</sup>	Symbol	AxN 90.150.4	AxN 110.200.4	Units
Power Supply Voltage	$V_{in}$	150 ~ 500		Vac 3 phase
		0 ~ 800		Vdc
Auxiliary supply voltage	$V_{aux}$	24V ± 15% / 8A		Vdc
Output frequency	$f$	0 ~ 1200		Hz
Current output, S1 <sup>(2)</sup>	$I_n$	90	110	Arms
Peak current <sup>(2)</sup>	$I_p$	150	200	Arms
Power Losses total <sup>(3)</sup>	$P_t$	1050	1280	W
Maximum output voltage	$V_{out}$	$V_{in} \times 0.95$		Vac
PWM frequency <sup>(4)</sup>	$f_{pwm}$	4 / 8 / 16		kHz
Efficiency at nominal power <sup>(2)</sup>	--	98.2	98.2	%
Input form factor (Full load)	--	0.9		Vac 3 phase
Maximum braking current	--	100% of $I_p$ (peak current)		--
Cooling	--	3 PWM fan 80x80x38		--
Flow rate	--	110x3		m <sup>3</sup> / hour
Dimensions (HxDxW)	--	725x249x286		mm

<sup>(1)</sup> Test performed with full option control card and firmware 1.8.197

<sup>(2)</sup>  $V_{in} = 380$  Vac,  $V_{out} = V_{in} \times 0.95$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz

<sup>(3)</sup>  $V_{in} = 380$  Vac,  $I_{out} = I_n$ ,  $T_{amb} = 40^\circ\text{C}$ , Comm.Freq.8kHz, Including input rectifier losses

<sup>(4)</sup> PWM frequency will automatically decrease at Zero speed, in order to keep Nominal current output

**Motor Feedback Options**

<b>Main Encoder (500kHz)</b>	Sincos encoder 5 channels (2 absolute analog tracks/2 incremental analog tracks/index)
	Incremental encoder (1 Vpp or Different Line Driver)
	Sensorless algorithm (w/o feedback)
	Endat serial encoder 1.0 to 2.2 (default)
	Resolver
	Hiperface encoder
<b>Secondary Encoder (500kHz)</b>	Incremental digital encoder without commutation tracks (500kHz)
	Endat serial encoder

**Programmable Input Signals**

<b>2 Differential / 4 single ended analog inputs</b>	± 10V (1mV) / Rin = 10kΩ
<b>8 digital inputs</b>	20-30V / Rin = 6.6kΩ to GND
<b>2 Insulated analog inputs (optional)</b>	± 10V (1mV)
<b>8 Insulated digital inputs (optional)</b>	5mA, 24 Vdc max

**Programmable Output Signals**

<b>2 analog outputs</b>	0-10V (1mV) FS (30mA)
<b>4 digital outputs</b>	PNP open collector 24V (100mA)
<b>1 watch dog relay</b>	2A/30Vdc, 0.25A/250Vac, NO/NC contacts
<b>2 insulated analog output (optional)</b>	± 10V (1mV) FS (30mA)
<b>2 insulated digital output (optional)</b>	On.off switch, 9-28V/2A

**Hardware Configuration**

Processor speed: 80 MIPS μC + FPGA / 120 MIPS μC + FPGA Extreme Version (Optional)

Task frequency:

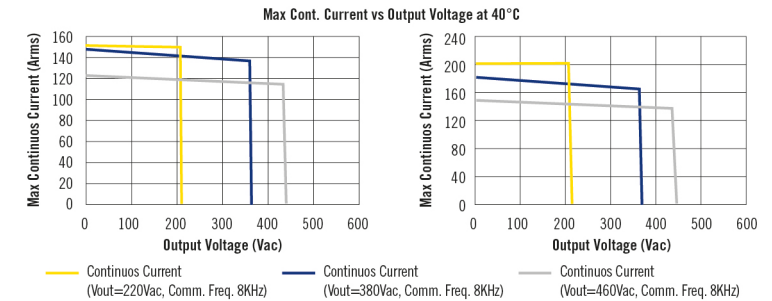
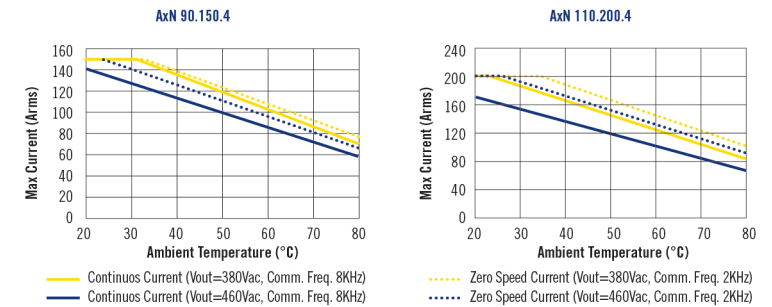
- » Current /drive monitoring: 1 MHz
- » Position/speed loop: 8 kHz
- » PLC fast task: 8 kHz
- » PLC slow task: 15.625 Hz to 1 kHz user-programmable

Position loop mode available

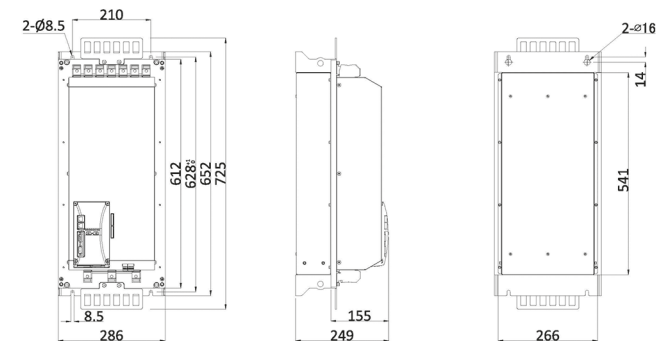
Target position register: 32 or 64 bits

Full digital control Id/Iq, updated 16 kHz

**Drive Operational Area of AxN Size 5**



**Overall Dimensions**





Cockpit3  
Installation, Configuration and  
Control Tool  
for Programmable Motion Control  
Platforms.

The screenshot shows the PHASE Cockpit3 software interface. The main window displays the 'AxX\_1: Monitor page' with the following sections:

- Power stage:** DC-Link Voltage, Heat Sink Temperature.
- Current loop (A rms):** Current Reference, Actual Current, Negative Current Limit, Positive Current Limit.
- Speed Loop (rad/s):** Speed Reference, Actual Speed.
- Status Word:** A row of status indicators for various conditions like 'int limit active', 'switch on dis', 'quick stop', 'en voltage', 'fault', 'operation en', 'switched on', 'fdy to switch on'.
- Command Word:** A row of command indicators for 'halt', 'fault reset', 'en operation', 'quick stop', 'en voltage', 'switch on'.
- Settings:** Target Position (turus, angle), Target Speed (rad/s), Mode of Operation, Current Mode.

A tree view on the left side of the interface lists various configuration options such as 'Target info', 'All parameters', 'Core', 'Motor', 'Encoder', 'Main', 'Endat', 'Absolute Analogue Traces', 'Hall sensors Traces', 'Incremental Traces', 'Sensorless', 'Electrical Field Orientation', 'Monitor', 'Auxiliary', 'Torque Loop', 'Speed Pos Loop', 'Device Control', 'Fieldbus', 'System', 'Alarms', 'Alarms history', 'Application Selection', 'Application Configuration', 'Monitor page', 'Feedback encoder', 'Motor', 'Brake unit', 'Space Speed Control Loop', 'Motion Control Application', 'CANOpen configuration', 'CANOpen PDO configuration', 'Filters configuration', 'Application', and 'Recipes'.

The screenshot shows a code editor window with the following content:

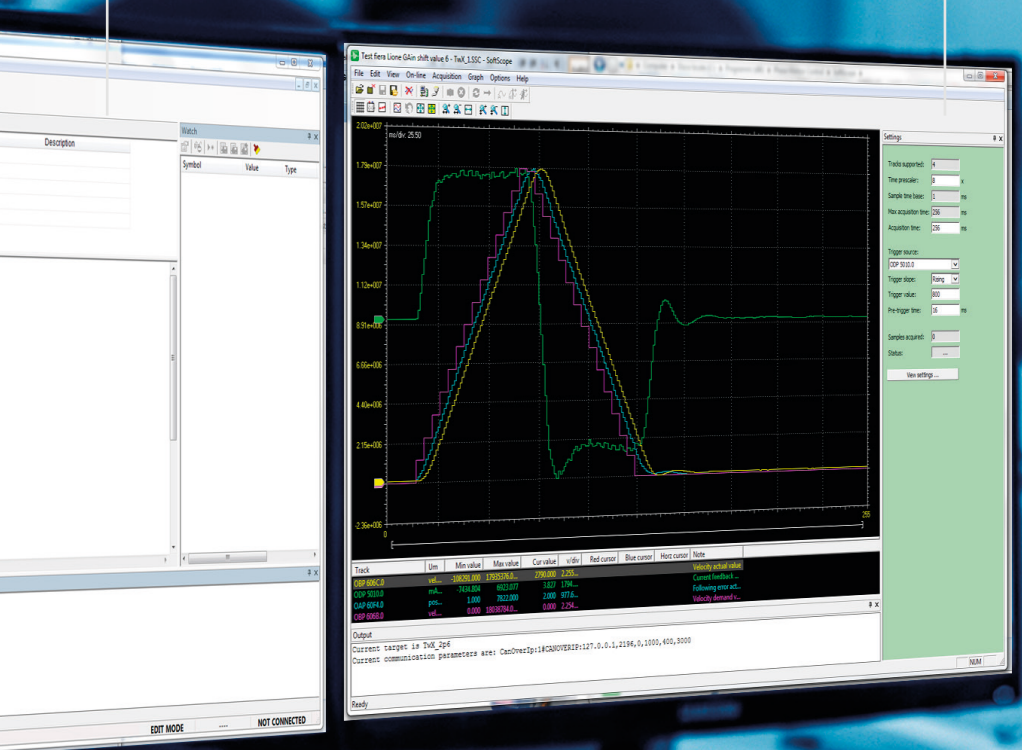
- Resources:** A table listing resources with columns for Name, Type, Address, Attr, Init value, and Attribute.
- Code:** Ladder logic code for a contactor control system, including logic for 'uwContactorCounter', 'uwContactorStatus', and 'uwContactorCounter'.
- Output:** A log showing preprocessing results for 'LARGEET', 'MAIN', and 'ParIB'.

Name	Type	Address	Attr	Init value	Attribute
1 uwContactorCounter	UNIT	Auto	No	0	
2 b0ds	BOOL	Auto	No	FALSE	
3 OPEN_RELE	UNIT	Auto	No	20000	CONSTANT
4 CLOSE_RELE	UNIT	Auto	No	0	CONSTANT
5 CENTONMILLI_FASTTI	UNIT	Auto	No	800	CONSTANT



LogicLab  
IEC61131-3 Integrated  
Development Enviroment

Softscope





## AxN Technical Data Overview

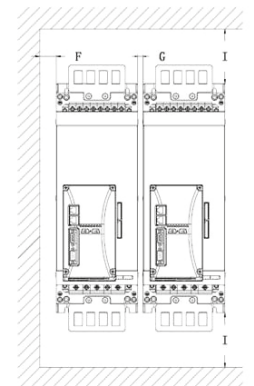
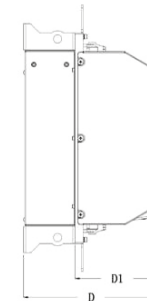
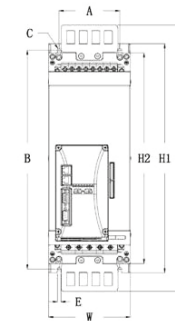
		Size2	Size3		Size4	Size5		
		AxN 15.30.4	AxN 22.44.4	AxN 35.70.4	AxN 50.100.4	AxN 70.140.4	AxN 90.150.4	AxN 110.200.4
<b>Rated Current Output</b>		15A	22A	35A	50A	70A	90A	110A
<b>Peak Current Output</b>		30A	44A	70A	100A	140A	150A	200A
<b>Main Power Supply</b>	<b>AC</b>	150 ~ 500 Vac Three Phase						
	<b>DC</b>	0 ~ 800 Vdc						
<b>Auxiliary Power Supply</b>	<b>Voltage</b>	24V ± 15%						
	<b>Current</b>	2A	3A		6A	8A		
<b>Brake Module</b>		Internal						
<b>Internal Brake Resistor</b>		18Ω/60W	12Ω/60W	7Ω/60W	5Ω/60W	3.5Ω/60W	3.5Ω/150W	3Ω/150W
<b>External Brake Resistor (Min/Max)</b>		18Ω/18.4Ω	9Ω/13.8Ω	6Ω/7.9Ω	4.5Ω/5.5Ω	2.1Ω/4Ω	2Ω/3.7Ω	2Ω/2.7Ω
<b>Fieldbus Support</b>		CANOpen - EtherCAT - Modbus						
<b>Position Sensor Support</b>		SinCos Encoder, Endat Encoder, Digital Incremental with Hall, Resolver and Hiperface Encoder						
<b>Safety</b>		STO (Safe Torque Off) complies with SIL3 IEC EN 61800-5-2:2007						
<b>Management software</b>		Phase Tools suite (free download from company web site)						



# Overall Dimensions

	Size2	Size3	Size4	Size5			
	AxN 15.30.4	AxN 22.44.4	AxN 35.70.4	AxN 50.100.4	AxN 70.140.4	AxN 90.150.4	AxN 110.200.4
<b>Weight</b>	6.9kg	8.8kg	13.1kg	26.8kg			
<b>H(Height)</b>		488					725
<b>W(Width)</b>	96	150		200			286
<b>D(Depth)</b>			249				
<b>H1</b>		420					652
<b>H2</b>		386					612
<b>D1</b>			155				
<b>A</b>	60	111.6		158.6			210
<b>B</b>		401					628
<b>C</b>	5.5	6.5					8.5
<b>E</b>	5.5	6.5					8.5
<b>F</b>				≥30			
<b>G</b>				≥10			
<b>I</b>				≥100			

Note: All dimensions are in millimeters (mm).



# Order Code

	AxN	35.70	.4	-FULL
<b>Name</b>				
<b>Output Current</b>	15.30	15A Rated / 30A Peak		
	22.44	22A Rated / 44A Peak		
	35.70	35A Rated / 70A Peak		
	50.100	50A Rated / 100A Peak		
	70.140	70A Rated / 140A Peak		
	90.150	90A Rated / 150A Peak		
	110.200	110A Rated/200A Peak		
<b>Power Supply</b>	400Vac Three Phase			
<b>Communication Option</b>	-FULL	Full Edition		
	-OPT.C	No EtherCAT		

Example  
 Code: AxN 90.150.4-OPT.C  
 It's an AxN Series Drive, Rated Current Output is 90 Arms, and Peak Current Output is 150 Arms. It use a 400Vac Three Phase AC Power Supply as its main power supply. This drive do not need EtherCAT ports.



# Certificates



1971-07  
 PHASE MOTION CONTROL S.p.A.  
 Via G. Adamoli, 461  
 I-16141 Genova (GE) - Italy

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## COMPLIANCE

with IEC EN 61800-5-2

Certificate No.: C-IS-241971-01  
 CERTIFICATE OWNER: PHASE MOTION CONTROL S.p.A.  
 Via G. Adamoli, 461  
 I-16141 Genova (GE) - Italy

WE HEREWIT  
 CONFIRM THAT  
 AxN CONFIGURABLE MOTION CONTROL PLATFORMS:

AxN 22.44.4 - AxN 35.70.4 - AxN 50.100.4

MEET THE SIL3 REQUIREMENTS

FOR THE SAFETY FUNCTION: Safe torque off (STO)

**Examination result:** The below described report was found to meet the standard defined requirements of the safety level according to IEC EN 61800-5-2, under fulfillment of the conditions listed in the Safety Manual and reported in the Report R-IS-241971-01-Rev.1 dated January, 29th 2015 in its currently valid version, on which this Certificate is based

**Examination parameters:** Functional safety requirements included in the IEC EN 61800-5-2:2007

Official Report No.: R-IS-241971-01 Rev. 1

Expiry Date: January, 28th 2016

IT IS TO BE INTENDED THAT THE ABOVE OFFICIAL REPORTS AND THE INFORMATION ARE AN INTEGRAL PART OF THIS DOCUMENT

Reference Standard: IEC EN 61800-5-2:2007



## COMPLIANCE

with IEC EN 61800-5-2

Certificate No.: C-IS-241971-02  
 CERTIFICATE OWNER: PHASE MOTION CONTROL S.p.A.  
 Via G. Adamoli, 461  
 I-16141 Genova (GE) - Italy

WE HER  
 AxN CONFIGURABLE

MEET THE  
 FOR THE SAFETY FU

**Examination result:** The below described report was found to meet the standard defined requirements of the safety level according to IEC EN 61800-5-2, under fulfillment of the conditions listed in the Report R-IS-241971-02 dated January, 28th 2015 in its currently valid version, on which this Certificate is based

**Examination parameters:** Functional safety requirements included in the IEC EN 61800-5-2:2007

Official Report No.: R-IS-241971-02

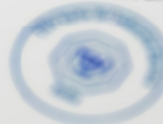
Expiry Date: January, 28th 2016

IT IS TO BE INTENDED THAT THE ABOVE OFFICIAL REPORTS AND THE INFORMATION ARE AN INTEGRAL PART OF THIS DOCUMENT

Reference Standard: IEC EN 61800-5-2:2007

Official Report No.: R-IS-241971-02

Expiry Date: January, 28th 2016



## COMPLIANCE

with IEC EN 61800-5-2

Certificate No.: C-IS-241971-03  
 CERTIFICATE OWNER: PHASE MOTION CONTROL S.p.A.  
 Via G. Adamoli, 461  
 I-16141 Genova (GE) - Italy

WE HEREWIT  
 AxN CONFIGURABLE M  
 AxN 90.0

MEET THE  
 FOR THE SAFETY FU

**Examination result:** The below described report was found to meet the standard defined requirements of the safety level according to IEC EN 61800-5-2, under fulfillment of the conditions listed in the Report R-IS-241971-03 dated January, 28th 2015 in its currently valid version, on which this Certificate is based

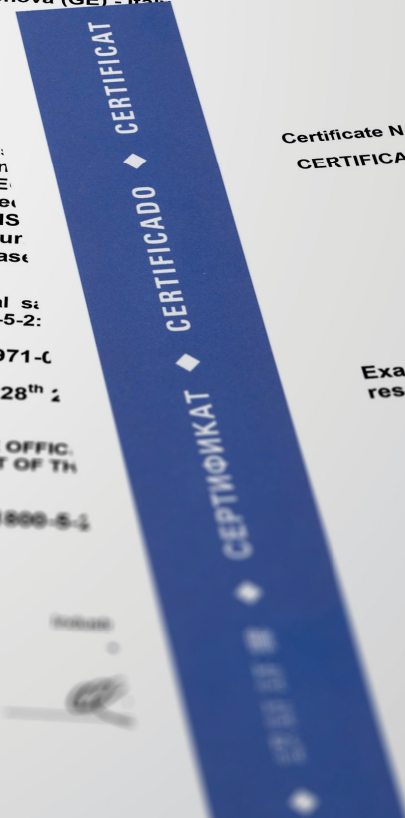
**Examination parameters:** Functional safety requirements included in the IEC EN 61800-5-2:2007

Official Report No.: R-IS-241971-03

Expiry Date: January, 28th 2016

IT IS TO BE INTENDED THAT THE ABOVE OFFICIAL REPORTS AND THE INFORMATION ARE AN INTEGRAL PART OF THIS DOCUMENT

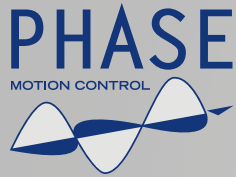
Reference Standard: IEC EN 61800-5-2:2007











## WORLDWIDE SUPPORT AND DISTRIBUTION NETWORK

### Company headquarters

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### Phase Motion Control, China

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Beilun Science and Technology Park  
Ningbo 315800

### Phase Automation, France

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1335 Industrial dr.  
Itasca, IL 60143

