



Adjustable frequency flux vector drive AV300i

The AV300i is an exceptional drive. A quick glance shows the sleek, ergonomic design that makes it stand out from the crowd. Taking a closer look at the AV300i shows the impressive performance and flexibility in a compact package that suits your application. With innovative modes of operation like sensorless flux vector control and scalar V/Hz, the AV300i is the perfect solution for any control system.

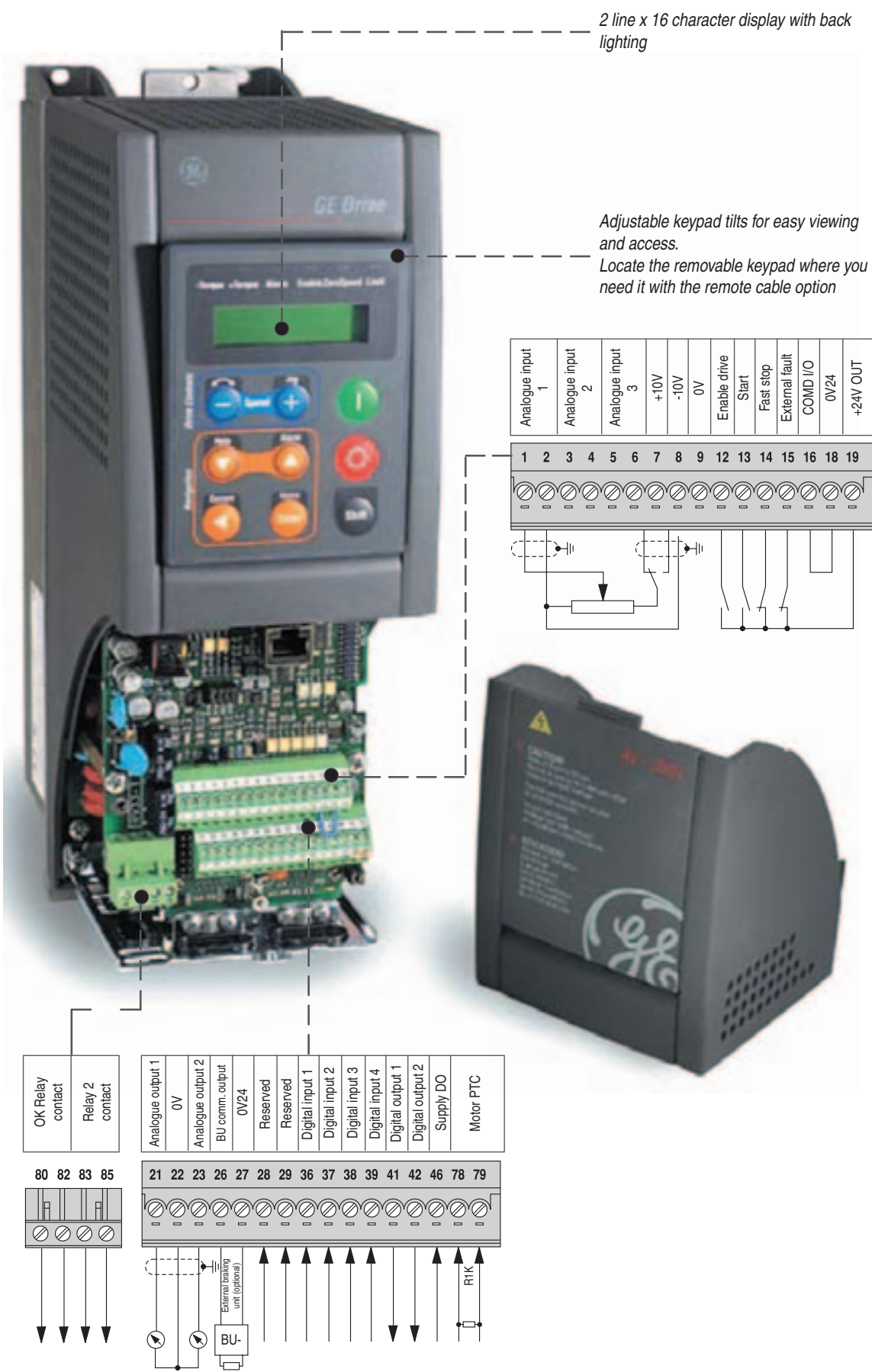
Features and Benefits

- **GE Control system toolbox software**
Combined configuration, trend recording, and operator interface.
- **Start-up wizards and Self-tune screen**
Quickens and simplifies start-up.
- **Removable LCD back lit keypad**
- **Virtual keypad**
Allows operators to control drive from PC screen as if using keypad on drive itself.
Provides easy viewing and access.
- **Graphic monitoring of drive variables**
Expedites start-up and displays drive's parameters and functions
- **Open architecture**
Allows connection to communication protocols.
Integrates with PLCs and operator interfaces.
- **Optional DGF programmable application card**
Develop customized control functions and execution blocks

Performance

- **Wide range of I/O and communication bus interfaces**
Easily link the drive to a push-button operator station with a speed pot or an automated solution with PLCs and HMI's.
- **Advanced control**
Configurable function blocks coordinate your process line.
- **High performance regulators**
Provide tension sectional control.
- **Connectivity to the RS-300**
Regenerative source for applications requiring common dc bus, like a slitting line.
- **Win+Drive configuration software and DGF card**
Allow easy programming for advance applications and sophisticated processes like a turret winder or flying shear control.
- **Universal approvals**
UL, cUL and CE cover applications around the globe.





Control system toolbox

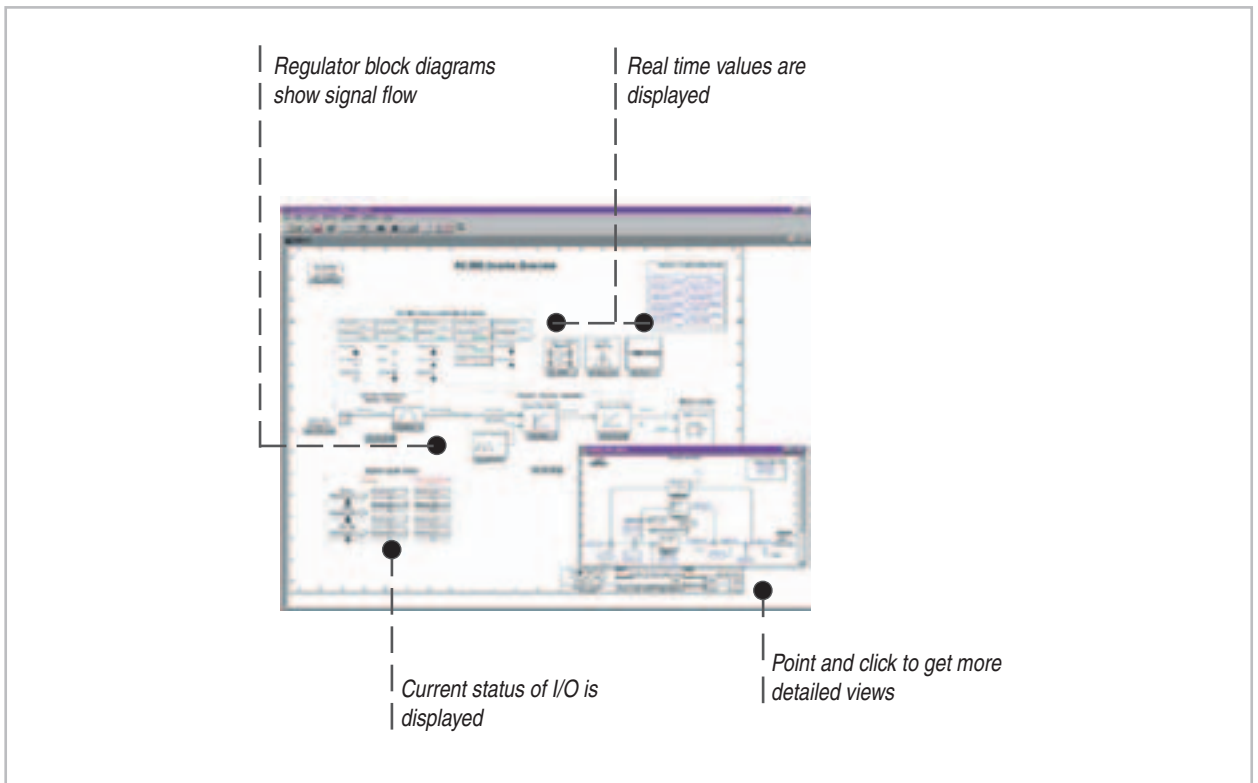
With its PC-based configuration and control, the AV300i is easy to set up, easy to run and easy to monitor.

The AV300i is configured by the GE Control System Toolbox⁽¹⁾, an intuitive control system that utilizes configuration wizards, animated block diagrams and an integrated trend window to save valuable time in commissioning. «Toolbox» provides customizable controls for real-time monitoring and operation right from the PC screen. And the AV300i drive works with a wide variety of popular communication buses, PLCs and HMIs.

- (1) - A RS485/232 converter (6KCV300CT1) and communication cable (6KCV8S8F59) is required for communication between AV300i and the PC.
 - A CD-Rom containing the GE Toolbox software is delivered with each drive.

Benefits

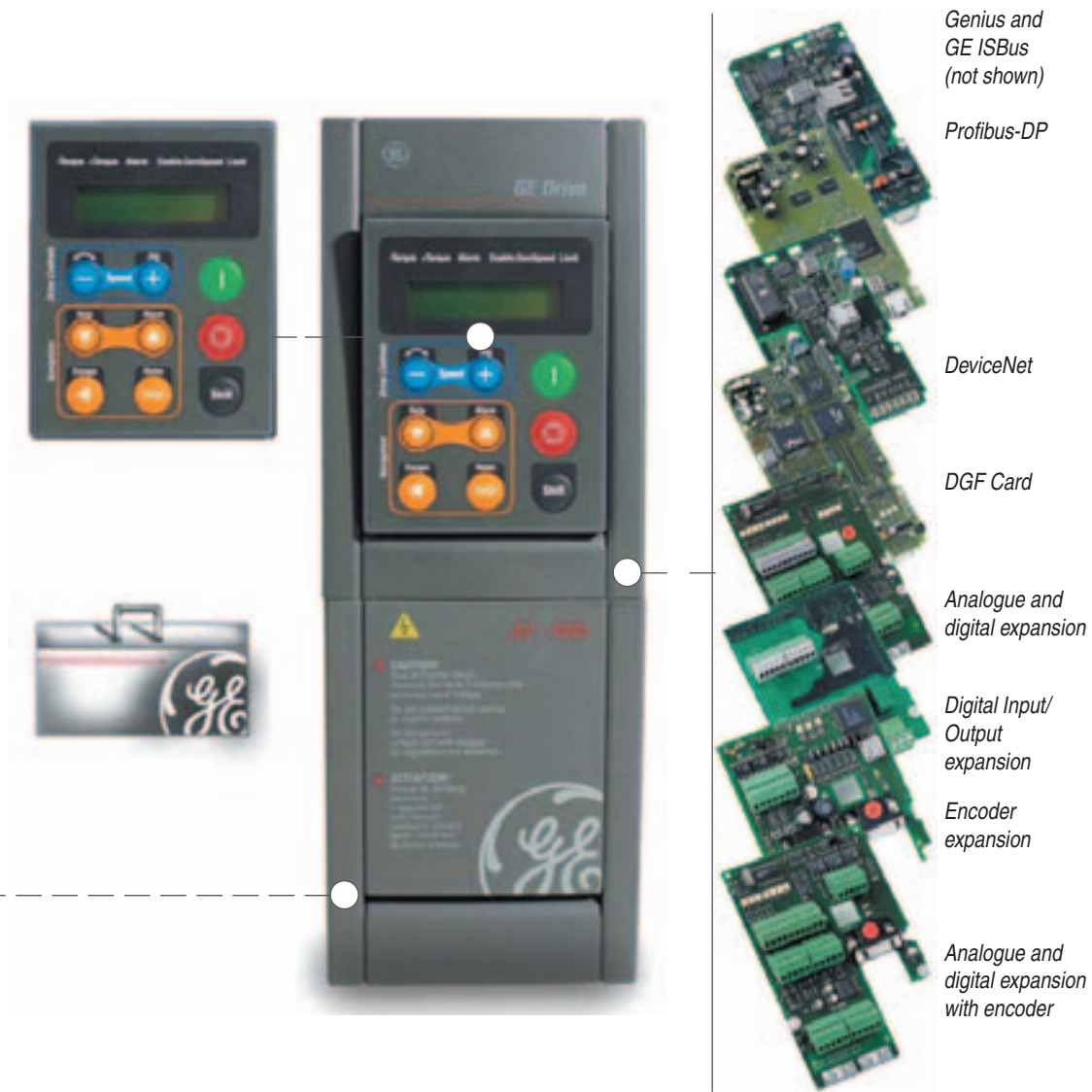
- Start-up wizards
- Combination of configuration, trend recording and operator interface
- Real time picture of signal flow.
Sequencing and regulator control provided by animated block diagrams
- Standard «drag and drop» techniques.
Allow any block diagram value to be copied to the trend recorder for real-time monitoring and historical trending.
- Online drive parameter controls.
Drive can be checked and modified online directly from the «Toolbox».
- Various drive configurations.
Can be stored for future downloads.
- Virtual reality keypad.
Allows operators to control the drive directly from the PC screen programming tool, also works with GE products (like DV300, RS300 and others).
- Online help.
Puts answers at operator's fingertips and are available at any time and any point during the set-up, start-up, or operation of the drive.



Open architecture

Our open architecture offers the ability to connect to popular communications protocols like DeviceNet, Genius, Profibus, IS Bus and Interbus-S. This drive easily integrates with popular PLCs and Operator Interfaces. With the addition of a DGF programmable application card, you can develop customized control functions and execution blocks that can be directly incorporated into the AV300i's configuration. With our WIN+DRIVE graphical program editor, you have pre-designed code and library of building blocks so you can «drag-and-drop» and «point-and-click» to make the DGF card your application solution. Predeveloped programs such as winder control and electric line shaft are also available.

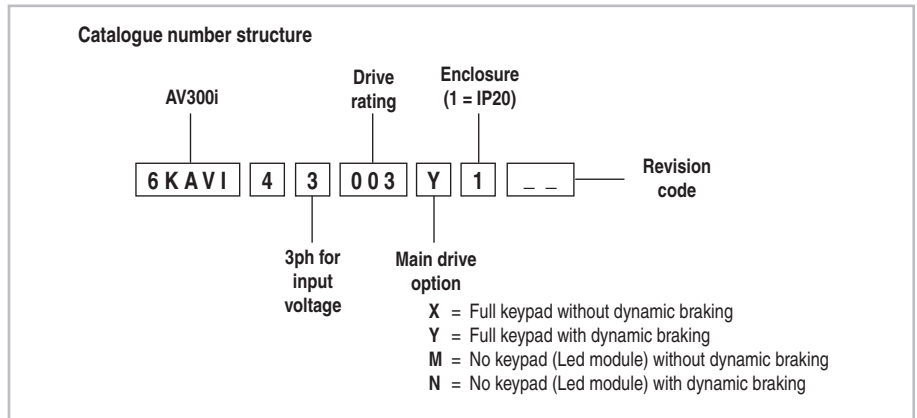
And, the AV300i's architecture knows no boundaries. The drives comes UL, cUL and CE labeled so it has the agency approvals needed around the globe. The AV300i opens up your architecture. The compact design fits into packed control cabinets. Up to 15kW/20hp, the drive can mount «bookshelf» style so space is not wasted due to clearance requirements for heating.



AV300i - Drives

Rated current				Recommended motor output						Cat. no.	Ref. no.
Class 1 no overload		Class 2 150% overload		Class 1 no overload			Class 2 150% overload				
U _{LN} = 400V (A)	U _{LN} = 460V (A)	U _{LN} = 400V (A)	U _{LN} = 460V (A)	U _{LN} = 230V (kW)	U _{LN} = 400V (kW)	U _{LN} = 460V (HP)	U _{LN} = 230V (kW)	U _{LN} = 400V (kW)	U _{LN} = 460V (HP)		
2.4	2.1	2.2	1.9	-	0.75	1	-	0.75	0.75	6KAVI43F75Y1 --	414250
4	3.5	3.6	3.2	-	1.5	2	-	1.5	1.5	6KAVI43001Y1 --	414251
5.6	4.9	5.1	4.4	-	2.2	3	-	2.2	2	6KAVI43002Y1 --	414252
7.5	6.5	6.8	5.9	-	3	3	-	3	3	6KAVI43003Y1 --	414253
9.6	8.3	8.7	7.6	-	4	5	-	4	5	6KAVI43005Y1 --	414254
12.6	12	11.5	11	-	5.5	7.5	-	5.5	7.5	6KAVI43007Y1 --	414255
17.7	15.4	16.1	14	-	7.5	10	-	7.5	10	6KAVI43010Y1 --	414256
24.8	23.1	22.5	21	-	11	15	-	11	15	6KAVI43015Y1 --	414257
33	29.7	30	27	-	15	20	-	15	20	6KAVI43020Y1 --	414258
47	40	43	36	11	22	30	11	22	25	6KAVI43025X1 --	414264
47	40	43	36	11	22	30	11	22	25	6KAVI43025Y1 --	414259
63	54	58	50	18.5	30	40	15	30	30	6KAVI43030X1 --	414265
63	54	58	50	18.5	30	40	15	30	30	6KAVI43030Y1 --	414260
79	68	72	62	22	37	50	18.5	37	40	6KAVI43040X1 --	414266
79	68	72	62	22	37	50	18.5	37	40	6KAVI43040Y1 --	414261
93	81	85	74	22	45	60	22	45	50	6KAVI43050X1 --	414267
93	81	85	74	22	45	60	22	45	50	6KAVI43050Y1 --	414262
114	99	104	90	30	55	75	30	55	60	6KAVI43060X1 --	414268
114	99	104	90	30	55	75	30	55	60	6KAVI43060Y1 --	414263
142	124	129	112	37	75	100	37	55	75	6KAVI43075X1 --	414269
185	160	169	146	55	90	125	45	90	100	6KAVI43100X1 --	414270
210	183	191	166	55	110	150	55	90	125	6KAVI43125X1 --	414271
250	217	227	198	75	132	150	55	110	150	6KAVI43150X1 --	414272
324	282	295	256	90	160	200	90	160	200	6KAVI43200X1 --	414273

- Remarks** - AV330i with full function keypad is the standard configuration of the drive.
- Drives up to 6KAVI43020 always include Dynamic braking.
 - For ambient temperature above 40°C, derate current by 2% per 1°C. Max. temperature at all is 50°C
 - For carrier frequency higher than default, derate current by 30%. Check specifications



Options			
Digital I/O expansion 8DI (24VDC), 4DO (Relays)		6KCV301D8R4	414333
I/O expansion 8DI, 6DO, 2AI, 2AO, 1 ENC +5V, 15-24V		6KCV301D14A4	414334
I/O expansion 12DI, 8DO, 2AI, 2AO-V, 2AO-I		6KCV301D20A6	414335
Encoder input and repeater (5VDC, 15-30VDC)		6KCV301ENC	414158
Programmable application controller		6KCV301DGF	414343
Communication option Profibus DP		6KCV301PDP33	414066
Communication option DeviceNet		6KCV301DNET	414352
Communication option Genius		HE300GEN250	414353
External options			
External brake unit (20A)		6KBU-300-20	414460
External brake unit (50A)		6KBU-300-50	414141
External brake unit (85A)		6KBU-300-85	414095
RS232/RS485 converter		6KCV300CTI	414038
Cable for RS232/RS485 converter		6KCV8S8F59	414371
Keypad mounting kit		6KCV301KPKMK	414332

AV300i - Filters and external dynamic braking

Drive (1)	Losses (400 VAC) W	EMC filter				External dynamic braking module
		Source up to 440V		Source up to 440-480V		Cat. no.
		Cat. no.	Ref. no.	Cat. no.	Ref. no.	
6KAVI43F75	48.2	EMI-FFP 480-9	414381	COMP 520-7	414397	-
6KAVI43001	77.5	EMI-FFP 480-9	414381	COMP 520-7	414397	-
6KAVI43002	104	EMI-FFP 480-9	414381	COMP 520-7	414397	-
6KAVI43003	138.3	EMI-FFP 480-9	414381	COMP 520-7	414397	-
6KAVI43005	179.5	EMI-FFP 480-24	414382	COMP 520-16	414398	-
6KAVI43007	233.6	EMI-FFP 480-24	414382	COMP 520-16	414398	-
6KAVI43010	327.4	EMI-FFP 480-24	414382	COMP 520-30	414399	-
6KAVI43015	373	EMI-FFP 480-30	414383	COMP 520-30	414399	-
6KAVI43020	512	EMI-FFP 480-40	414384	COMP 520-30	414399	-
6KAVI43025	658	COMP 480-42	414385	COMP 520-30	414399	6KBU300-50 (2)
6KAVI43030	864	COMP 480-55	414386	COMP 520-42	414400	6KBU300-50 (2)
6KAVI43040	1100	COMP 480-75	414387	COMP 520-55	414401	6KBU300-50 (2)
6KAVI43050	1250	COMP 480-100	414388	COMP 520-75	414402	6KBU300-50 (2)
6KAVI43060	1580	COMP 480-100	414388	COMP 520-100	414403	6KBU300-85 (2)
6KAVI43075	1950	COMP 480-130	414389	COMP 520-100	414403	6KBU300-85 (3)
6KAVI43100	2440	COMP 480-180	414390	COMP 520-130	414404	2x 6KBU300-50 (3)
6KAVI43125	2850	RANGER 520-280	414391	COMP 520-180	414405	2x 6KBU300-85 (3)
6KAVI43150	3400	RANGER 520-280	414391	RANGER 520-280	414391	2x 6KBU300-85 (3)
6KAVI43200	4400	RANGER 520-450	414392	RANGER 520-280	414391	2x 6KBU300-85 (3)

(1) Drives types 6KAVI43__Y1__, from size 43F75 to 43060, include dynamic braking unit into the drive.

(2) These external braking units should be used to have dynamic braking performance in drives which are not fitted with internal braking unit, types 6KAVI43__X1__, from size 43025 to 43060.

(3) Drives above 43060, always use external braking module when this function is required.

Remark: External braking units or drives «Y» option, do not include dynamic braking resistor. Ask your dealer for this.

Technical data

Specifications

	Item	Description
General		
Nominal motor power	230V, 3 phases	11 to 90kW
	400V, 3 phases	0.75 to 160kW
	460V, 3 phases	3/4 to 200HP
Enclosure	Standard	IP20
Cooling method	Self power	Up to 45 kW
	External power	From 55kW requires 115/230VAC, 50/60Hz external power supply
Standards		CE marking / UL / cUL
Braking torque	0,75 to 15kW	Braking module built-in as standard (needs external resistor)
	18,5 to 55kW	Optional external modules available and units with internal modules available (need external resistor)
	>= 75kW	Optional external braking module available (BU300)
Input		
	AC voltage	230VAC / 400VAC / 460 VAC (+/-15%, 50/60Hz)
	AC input frequency	50/60Hz, +/-5%
	Unbalance	3% max. per EN 61800-3 standard
	Power dip.	For input voltage greater than Vmin., the drive will operate at rated output continuously For input voltage less than Vmin. the drive will discontinue firing and control power will remain for a time depending upon output current load and inverter size ranging from 0.25 sec. for 3/4 HP to 18 sec. for 200 HP
Ambient conditions		
Altitude		1000 meters or less. Derate at 1,2% for each 100 meters from 1000 to 3000 meters (above 3000 meters, please consult)
Temperature	Ambient	Option a: -10 to +50°C (units less than and equal to 30HP must have ventilation covers removed for 50°C). Derate current by 20% Option b: -10 to +40°C (up to 50°C with ventilation cover removed). Over 40°C derate current by 2% per 1°C
	Storage	-20 to +55°C
Vibration		1K4 of EN 50178
Humidity		5 - 85% relative humidity (without condensation)
Output		
	230VAC, 3 phases	3 phase 200V at 50Hz or 3 phase 200V, 220V, 230V at 60Hz
	460VAC, 3 phases	3 phase 380V, 400V, 415V, 440V at 50Hz or 3 phase 380V, 400V, 440V, 460V, 480V at 60Hz (output voltage can not be higher than input voltage)
	Frequency	50/60Hz nominal
	Overload	150% of rated current for 1 min.; 200% for 0,5 sec. short term overload
	Max. frequency	400Hz, from 0.75 kW to 37 kW; 200Hz, from 45 kW and over
	Carrier frequency	Up to 37 kW, 8kHz as standard. Optional 16kHz with 30% current derating From 45kW, 4kHz as standard. Optional 8kHz with 30% current derating
Control		
Control method	Sinusoidal PWM	V/Hz
		Sensorless vector, Field oriented vector with digital tachometer, Field oriented vector with sinusoidal encoder
Operation	Methods	Keypad, Digital inputs, Bus communication
Reference setting	Keypad	Increase or decrease speed or enter speed setpoints
	Potentiometer	1 - 10 kΩ (optional)
	Analog	-10VDC to +10VDC, 0-10VDC, 4-20mA, 0-20mA
	Digital	Inc./Dec. control (increases with UP, decreases with DOWN). 8 preset speed setpoints
	Configuration tool	RS485 standard
	Networks	Optional network cards
Acceleration setting	Four settings	0,0 - 65.535 seconds independent Acc./Dec. selectable Linear or S-curve (with adjustable S times)
	Ramp control	Programmable fast stop, Freeze ramp, Ramp delay, Ramp control
Speed limiter		High and low values are presettable
Auto-restart		Programmable. Up to 99 restarts is available
PID control		Generic process controller for speed regulator with dancer control, pressure, load cells and winders
Jog		Selectable with or without ramp for keypad, terminals or bus communication
Tach follower		Use the encoder input as a speed reference
Analog control		Map the analog inputs for speed, current or PID reference control
Speed ratio		A scalar multiplier of speed reference after the ramps for co-ordinated lines
Drop		Slow drive speed as a percentage of load or external signal for load sharing
Speed up		Adjust the speed feedback for high inertia applications
Inertia comp./Loss comp.		Inertia compensation and loss compensation for high performance process applications
Ramp 1 & 2		Two inputs for speed reference before the ramp(s)
Speed ref. 1 & 2		Two inputs for speed reference after the ramps(s)
Speed zero logic		Adjustable zero speed detection and time delay
Dimension factor		Calibrate the drive speed reference to units other than RPM
Motor autotune	Speed tuning	Rotates motor on unconstrained load and tunes speed regulator
	Vector tuning	Tunes current regulator without motor rotation; Flux and voltage regulators are selectable with or without rotation

Specifications (continued)

	Item	Description
<i>Control (continued)</i>		
Other control features	Test generator	Square wave generator with user configurable offset, freq., and amplitude for regulator extra fine tuning
	DC braking	Configurable
	2nd motor parameters	Selection of a 2nd set of motor parameters for using the drive with 2 different motors
	Stop control	User configurable sequencing of the drive using enable and start inputs
	Power loss stop paramet.	During a power loss, use the motor energy to regenerate the DC bus and bring the motor to an orderly stop
	Links	Generic scaling blocks for user signal manipulation
	PAD parameters	Virtual I/O for mapping drive I/O to the LAN, DGF or links
<i>Regulators</i>		
General speed regulation control	Speed zero gains	Separate zero speed regulator gains
	Adaptive speed gains	Speed regulator gains settable by a profile. The profile can be adjusted based on speed or another analog signal
	Enable speed regulator	Speed regulator can be disabled
Torque regul. control	Torque control	Output torque or load can be controlled by analog input signal, LAN, or appl. card
	PID	PID outer loop speed with dancer control, load cells and winders
	Zero torque	Command for zero output torque (note: not zero current)
	Torque limits	Torque current limits can be controlled by analog input signal, LAN or appl. card
Flux regulation control	Constant current	For operation up to rated motor speed
	Voltage control	For operation above rated motor speed
	Output voltage level	Manual or automatic adjustment or flux level above rated speed
	Flux regulator gains	User tunable voltage regulator gains
	Voltage regulator gains	User tunable flux regulator gains
V/Hz regulator	Resolution	0.001Hz at 50Hz, 0.005Hz at 300Hz
	Accuracy	0.3 times nominal motor slip
	Control range	1:50 (it depends of rated motor slip)
	Slip compensation	For speed compensation dependent upon load
	Manual voltage boost	Adjust boost via a parameter
	Auto voltage boost	Boost is selected automatically from motor parameters
	V/f shape	V/Hz relationship can be set to linear or three other non-linear models
	Energy save	Reduces losses at light loads
	Catch A spinning	Smoothly pick up a rotating motor without stopping and without DB
	Sensorless vector	Resolution
Accuracy		0.3% at nominal speed (1.3% at 2 x nominal speed)
Control range		1:50 at 2.5 x nominal speed
Max. bandwidth		100 rad/sec. 15.9Hz
Torque reg. resolution		1:1.000 (rpm)
Torque reg. accuracy		Typically 5%, using rotor resistance adaptation
Torque control range		1:20
Torque min.response time		0.8ms
Torque max. bandwidth		2.4 krad/sec. 380Hz
Rotor resistance adaptat.		Compensates for changes in rotor resistance due to heating
Low speed factor		Adjusts drive output to increase torque at low speeds (<2%)
Sensorless speed filter		Adjusts speed feedback on light load applications
Flux correction factor		Adjust estimated rotor flux on high inertia or regen. loads
Distortion load compens.		Adjust current regulation for voltage distorsions
Field oriented vector (digital tach)	Resolution	0,5 rpm (spd ref. resolution = 0.25 rpm)
	Accuracy	Typical 0.02%
	Control range	> 1:1.000
	Max. bandwidth	300 rad/sec, 47Hz
	Torque reg. resolution	1:1.000
	Torque reg. accuracy	Typically 5%, using rotor resistance adaptation
	Torque control range	1:20
	Torque min. response time	0.8 ms.
	Torque max. bandwidth	2.4 krad/sec, 380Hz
	Lock zero position	Holds the position of the shaft at zerospeed
	Index storing	The C (index or marker) channel of the encoder can be used to accumulate pulses for positioning controls
Field oriented vector (sinusoidal encoder)	Resolution	0.25 rpm (PPR>1.900), >0.25 (PPR < 1.900) (spd ref. resolution = 0.25 rpm)
	Accuracy	Typically 0,01%
	Control range	> 1:10.000
	Max. bandwidth	300 rad/sec., 47Hz
	Torque reg. resolution	1:1.000
	Torque reg. accuracy	Typically 5%, using rotor resistance adaptation
	Torque control range	s
	Torque min. response time	0.8 ms.
	Torque max. bandwidth	2,4 krad/sec, 380Hz
	Lock zero position	Holds the position of the shaft at zerospeed
	Index storing	The C (index or marker) channel of the encoder can be used to accumulate count for positioning controls



Specifications (continued)

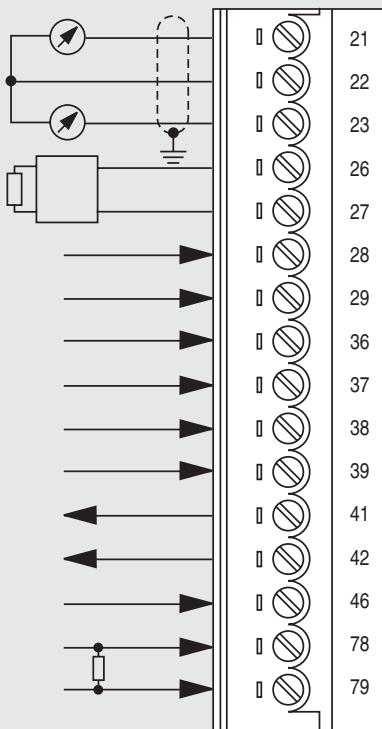
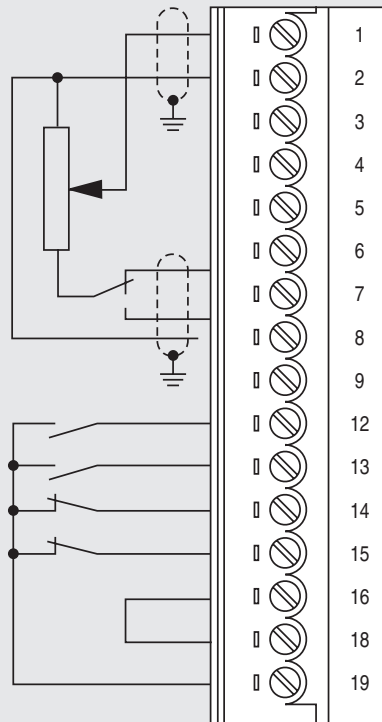
	Item	Description
Keypad		
		Adjustable viewing angle for optimal viewing
		Backlit LCD display
		Tactile keys for start, stop, increase speed, decrease speed, jog, menu navigation, alarm reset
Indication		
Operating mode	LCD	Speed, Voltage, Current, Encoder, Power output, Torque, Motor flux, Frequency, Ramp references, Speed references, Torque references, PID output, Heatsink temperature, Regulator card temperature, Overload time status, Braking overload status, I/O status
	Selections	Programmable in %, or user selectable units
Configuration mode		Parameters fully programmable while drive is not running
		Tuning and control parameters are adjustable while running
Trip mode	Undervoltage	Selectable latched or unlatched fault DC link undervoltage
	Overvoltage	Selectable latched or unlatched fault DC link overvoltage
	Overcurrent	Selectable latched or unlatched fault
	Heatsink sensor	Heatsink temperature greater than preset temperature for over 10 seconds; fault can be latched or unlatched
	Heatsink overtemperature	Heatsink temperature greater than preset temperature for over 1 second (25 to 200 Hp)
	Regulation OT	Regulation card temperature greater than preset temperature for over 10 seconds; fault can be latched or unlatched
	Module OT	IGBT module overtemperature (0,75 to 15kW)
	Motor overtemperature	Motor overtemperature temperature, user selects action: warning, drive disable, quick stop, stop, curr. limit stop
	BU overload	Braking unit calculated overload, user selects action: warning, drive disable, quick stop, stop, curr. limit stop
	Speed fdk loss	Loss of speed feedback. Fault can be enables or disabled
	Output stages	Shortcircuit detected in motor output or braking unit, disable drive. Fault can be latched or unlatched
	Opt 2	DGF card error. User selects action: warning, drive disable, quick stop, stop, current limit stop
	Hw Opt1 failure	Option card error. User selects action: warning, drive disable, quick stop, stop, current limit stop
	Bus loss	Loss of LAN communication. User selects action: warning, drive disable, quick stop, stop, current limit stop
	External fault	External fault input open. User selects action: warning, drive disable, quick stop, stop, current limit stop
	Enable seq. error	Drive powered up with enable input on. Fault can be turned off for auto restart
Faults	Failure supply	24VDC power supply failure
	Cur fdk loss	Loss of internal current feedback
	DSP error	Processor failure
Diagnostics	History	Trip history - past ten events (trip and warning) with relative time stamp
Protections		
Overload		Electronic overload automatically reduces current limit
Overvoltage		Detection of DC link circuit overvoltage (400VDC - series 230VAC and 800VDC - series 460AC)
Incoming surge		Inverter protection from surge voltage input (max. 1.2kV x 50 μsec, 7kV peak)
Undervoltage		Detection of DC link circuit undervoltage (200VDC - series 230VAC and 400VDC - series 460VAC)
Overheating		Inverter overheating protection by temperature detection
Shortcircuit		Shortcircuit protection for inverter output circuit
Motor overload		Electronic thermal overlay relay control
		Calculation of thermal time constant can be preset
DB resistor overheating		Internal electronic thermal overload relay control
Motor overheating		Overheating detection thermistor input
Signal loss		detection of loss of analog input 1 when used as 4-20mA input
Terminal functions. Main circuit		
Power input	U1/L1, V1/L2, W1/L3	Three phase power source connections
Inverter output	U2/T1, V2/T2, W2/T3	Three phase induction motor connections
DC input/output	C, D	Access to the DC link for common DC bus, or external DB modules
Braking unit	C (+), BR1 (-)	Connections for the braking resistor 0,75 to 15kW (from 22 to 55kW when ordered this option)
Ground	PE1	Ground terminal for inverter chassis (housing)
Communications port	RS485	RS485 multidrop communication port for PC tools
	Standard connector	Connection is through the standard DB9 pin connector

Specifications (continued)

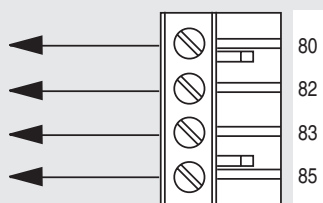
	Item	Description	
<i>Terminal functions. Inputs and Outputs</i>			
Differential analog inputs	Ratings	+/- 10VDC power supply, maximum allowable output current 10mA	
	Selections	-10VDC to +10VDC, 0-10VDC, 4-20mA, 0-20mA	
Three configurable	Resolution	11 bits + sign	
	Linearity	0,1% of full scale	
	Update rate	2msec. update	
	Adjustments	Automatically adjust the scalings of the analog inputs	
		Software adjustable gains and offsets	
		Polarity can be selected by parameter or digital input	
		Enable or disable from digital input	
Parameters	Input 1 has an adjustable filter and comparator for 4-20mA signal loss detection		
	Jog reference, ramp references, speed references, outer loop inputs, current references, speed gain adjusts, current limit adjusts, droop adjusts, PID adjustments, flux adjust, and speed ratio (draw)		
Digital inputs Four configurable	Ratings	24VDC power (129 mA max.) and common for user	
	Update rate	Each input accepts 15-30VDC. Input power = 5mA at 24VDC per input	
	Adjustments	8ms.	
		Separate common for predefined digital inputs	
Parameters	Enable, start, fast stop, and external fault inputs		
	Separate power and common inputs for user digital inputs		
Digital outputs Two configurable	Ratings	Inc/dec. speed control, jog, reset, reduce torque, set ramp = 0, freeze ramp, lock speed regulator, lock spd. reg. integrator, enable, «catch a spinning motor», analog in polarity, select speed setpoints, select ramps, speed fdk select, virtual I/O, fwd/rev, disable analog ins., enable droop, quick stop	
	Update rate	24VDC power and common for user power supply and common terminals same as the for the digital inputs	
		20mA maximum current output, 15-30VDC out	
Differential analog outputs Two configurable	Update rate	8ms.	
	Parámetros	Speed zero, speed threshold (up to speed), curr limit flag, drive ready, not in overload, ramp+, ramp-, speed in limit, undervoltage, overvoltage, heatsink OT (3), external fault, motor OT, power supply failure, output from virtual I/O, speed fdk loss, bus loss, output stages, opt 1 failure, DGF failure, encoder loss, overload flag, enable seq err, braking unit overload, diameter calc status, motor setup in use, 4-20mA signal OK, overload >200%, power loss stop active, power loss time out regulation OT	
		Range	+/- 10VDC, 5mA
		Resolution	11 bits + sign
Relay outputs	Update rate	2 ms	
	Adjustments	Software adjustable gains	
		Ramp reference 1&2, Speed references, Torque reference, PID output, Voltage, Current, Active power, Output torque, Motor flux, Frequency	
		Default is zero speed; see digital outputs a list of other programmable outputs	
Encoder input	Parameters	NO contact opens on drive fault	
	Drive OK relay	Rated 250VAC, 1A - AC11	
		Programmable NO contact	
	Programmable relay	Rated 250VAC, 1A - AC11	
		Default is zero speed; see digital outputs a list of other programmable outputs	
Options	Connection	DB 15 pin hi density connector	
	P.P.R.	600 P.P.R. minimum, maximum 9.999 P.P.R.	
	Frecuency	Maximum 150kHz digital tach, 80kHz for a sinusoidal encoder	
	Power	5VDC, 200mA maximum with software level adjustment for long lead compensation	
	Types	5VDC, 2 channel differential sinusoidal encoder	
5VDC, differential quadrature encoder with marker channel			
5VDC, 2 channel incremental sinusoidal encoder with 2 sin/cos traces			
Networks	HE300GEN250	GENIUS	
Additional I/O	6KCV301PDP33	Profibus DP	
	6KCV301DNET	DeviceNet	
	6KCV301D8R4	24VDC - 8 digital ins, 4NO contacts out	
Application	6KCV301D14A4	24VDC - 8 digital ins, 6 digital outs, 2ea 10V analog in, 2ea 10V analog outs, 1 encoder out	
	6KCV301D20A6	24VDC - 12 digital ins, 8 digital outs, 2ea analog in (V or mA), 2ea 10V analog outs, 2ea mA outs	
	6KCV301ENC	Encoder input & repeater 5V, 15V-30V input setting requires external power supply	
	6KCV301DGF	DGF programmable application card	
Braking module	6KBU300 --	Dynamic braking modules with ratings of 20A, 50A and 85A available	
Regenerative source	RS300	Four quadrant operation with ratings of 185A, 280A, 420A, 650A, 1050A for 3ph 400-480VAC mains supply	



Plug-in terminal strip assignment



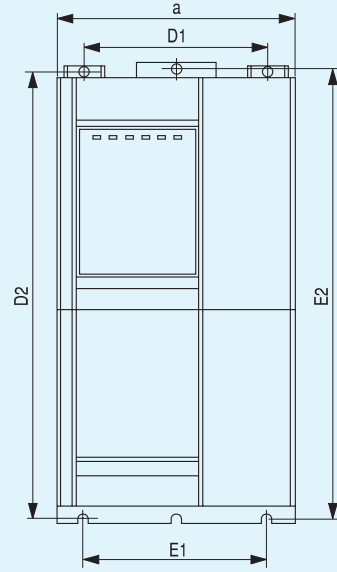
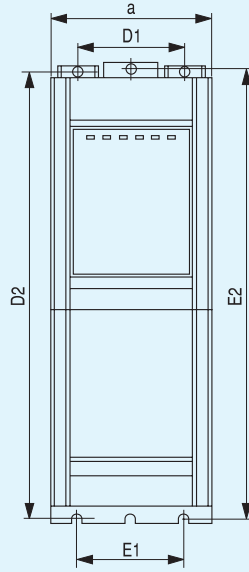
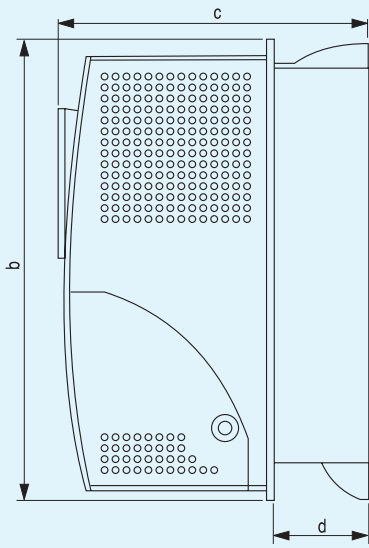
Connector X1	Function	Maximum
1	Analogue input 1 Programmable/configurable analog differential input. Signal: terminal 1; Reference point: terminal 2 Default setting: Ramp ref. 1	+/-10V at 0,25mA (20mA when current ref. input)
2		
3	Analogue input 2 Programmable/configurable analog differential input. Signal: terminal 3; Reference point: terminal 4 Default setting: none	
4		
5	Analogue input 3 Programmable/configurable analog differential input. Signal: terminal 5; Reference point: terminal 6 Default setting: none	
6		
7	+10V Reference voltage +10V; Reference point: terminal 9	+10V/10mA
8	-10V Reference voltage -10V; Reference point: terminal 9	-10V/10mA
9	0V Internal 0V and reference point for +/-10V	-
12	Enable drive Drive enable: 0V or open; drive disabled; +15...+30V : Drive enabled	+30V
13	Start Drive start command: 0V or opne: No start; +15...+30V = Start	3.2mA at 15V
14	Fast stop 0V or open: Fast stop; +15 ... +30V; No Fast stop	5mA at 24V
15	External fault 0V or open: External fault; +15 ... +30V; No External fault	6.4mA at 30V
16	COMD I/O Reference point for digital inputs and outputs, term. 12...15, 36...39, 41...42	-
18	0V24 Reference point for +24V OUT supply, terminal 19	-
19	+24V OUT +24V supply output. Reference point: terminal 18 or 27 or 28	+22...28V 120mA at 24V
21	Analogue output 1 Program. analogue output; def. setting: Motor speed. Ref. point: term. 22	+/- 10V/5mA
22	0V Internal 0V and reference point for terminals 21 and 23	-
23	Analogue output 2 Program. analogue output; def. setting: Motor current. Ref. point: term. 22	+/- 10V/5mA
26	BU comm. output VeCon controlled BU... braking units command. Ref. point: term. 27	+28V/15mA
27	0V24 Reference point for BU-... command, terminal 26	-
28	RESERVED	-
29	RESERVED	-
36	Digital input 1	+30V
37	Digital input 2	Programmable digital input; default setting: none
38	Digital input 3	
39	Digital input 4	
41	Digital output 1	
42	Digital output 2	Programmable digital output; default setting: none
46	Supply DO Supply input for digital outputs on terminals 41/42. Ref. point: term. 16	
78		
79	Motor PTC Motor PTC sensing for overtemperature (cut-off R1k if used)	1.5mA



Strip X2	Function	Max. curr.
80	OK relay contact Potential-relay contact OK RELAY (closed = OK)	250VCA 1A, AC11
82		
83	Relay 2 contact Potential-relay contact configurable (relay 2) Default: open 0 drive stopped	250VCA 1A, AC11
85		

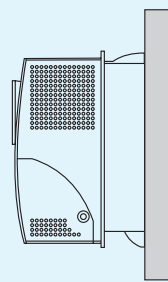
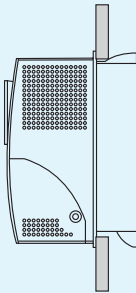
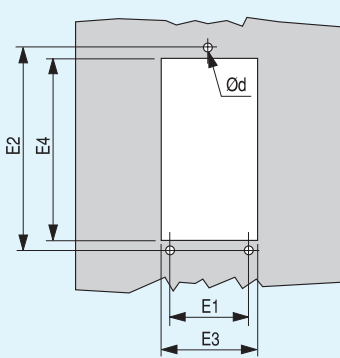
Dimensional drawings

AV300i



Mounting with external heatsink

Wall mounting



Cat. no.	Dimensions (mm)												Weight (kg)
	a	b	c	d	D1	D2	E1	E2	E3	E4	E5	Ød	
6KAVI43F75	105.5	306.5	199.5	62	69	296.5	69	299.5	99.5	284	9	M5	3.5
6KAVI43001	105.5	306.5	199.5	62	69	296.5	69	299.5	99.5	284	9	M5	3.6
6KAVI43002	105.5	306.5	199.5	62	69	296.5	69	299.5	99.5	284	9	M5	3.7
6KAVI43003	105.5	306.5	199.5	62	69	296.5	69	299.5	99.5	284	9	M5	3.7
6KAVI43005	151.5	306.5	199.5	62	115	296.5	115	299.5	145.5	284	9	M5	4.95
6KAVI43007	151.5	306.5	199.5	62	115	296.5	115	299.5	145.5	284	9	M5	4.95
6KAVI43010	151.5	306.5	199.5	62	115	296.5	115	299.5	145.5	284	9	M5	4.95
6KAVI43015	208	323	240	84	168	310.5	164	315	199	299.5	9	M5	8.6
6KAVI43020	208	323	240	84	168	310.5	164	315	199	299.5	9	M5	8.6

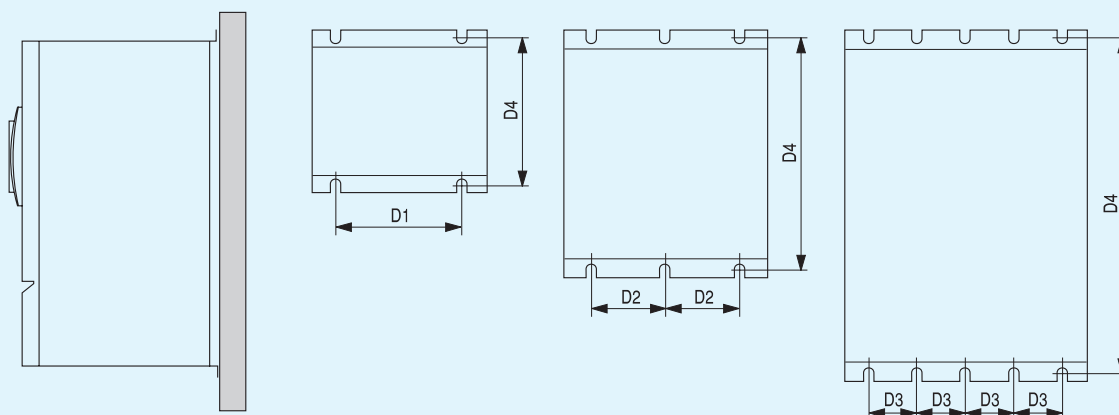
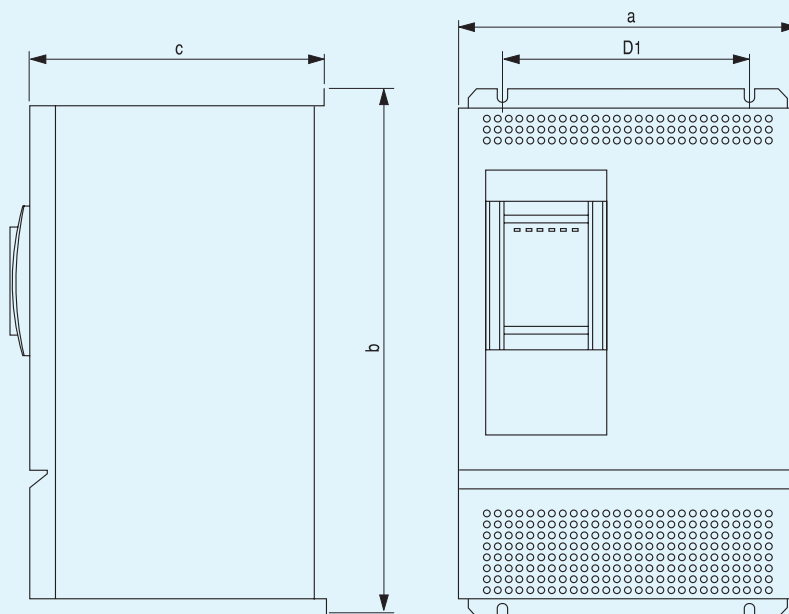
AV300i

J



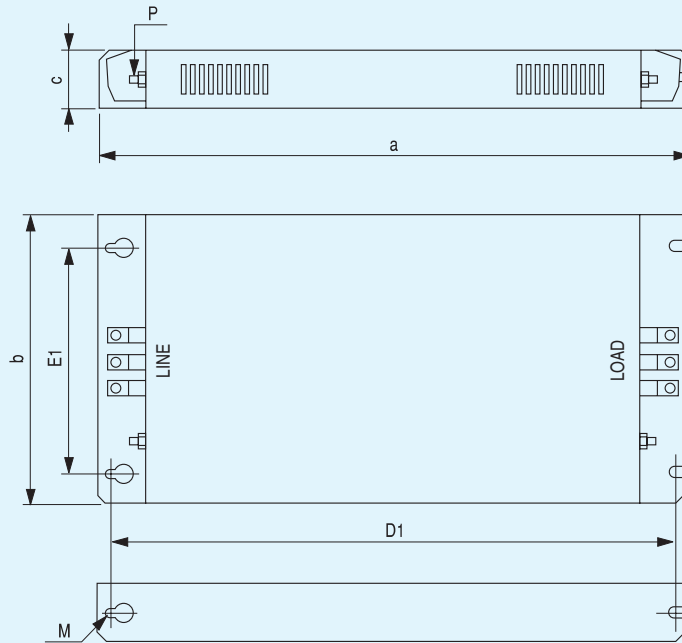
Dimensional drawings

AV300i



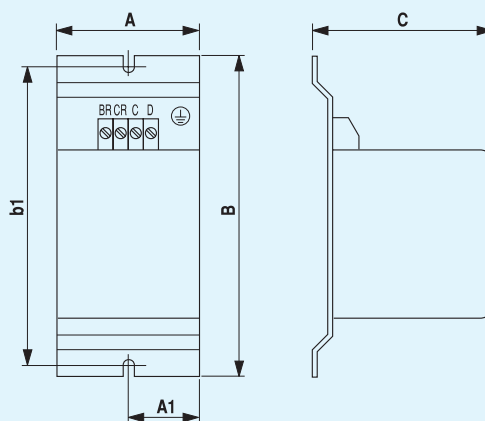
Cat. no.	Dimensions (mm)								Weight (kg)
	a	b	c	D1	D2	D3	D4	Ød	
6KAVI43025	309	489	268	225	-	-	475	M6	18
6KAVI43030	309	489	308	225	-	-	475	M6	22
6KAVI43040	309	489	308	225	-	-	475	M6	22,2
6KAVI43050	376	564	308	-	150	-	550	M6	34
6KAVI43060	376	564	308	-	150	-	550	M6	34
6KAVI43075	509	741	297.5	-	-	100	725	M6	59
6KAVI43100	509	909	297.5	-	-	100	891	M6	75.4
6KAVI43125	509	909	297.5	-	-	100	891	M6	80.2
6KAVI43150	509	909	297.5	-	-	100	891	M6	86.5
6KAVI43200	509	1174	442	-	-	100	1112	M6	105

Foot print filter



Cat. no.	Dimensions (mm)							Weight (kg)
	a	b	c	D1	E1	P	M	
EMI-FFP-480-9	375	104	45	360	59	M5	Ø6	1.1
EMI-FFP-480-24	375	150	45	360	105	M5	Ø6	1.4
EMI-FFP-480-30	390	200	45	375	155	M5	Ø6	1.6
EMI-FFP-480-40	390	200	45	375	155	M5	Ø6	2.3

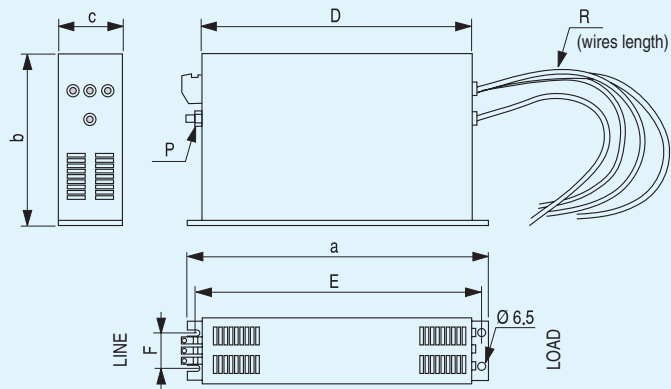
External brake unit



Cat. no.	Losses (W)	Dimensions (mm)						Weight (kg)
		A	B	C	A1	B1	Ø	
6KBU300-20	130	144	320	210	71	307	M6	5.2
6KBU300-50	300	144	320	210	71	307	M6	5.7
6KBU300-85	400	144	320	280	71	307	M6	6.8

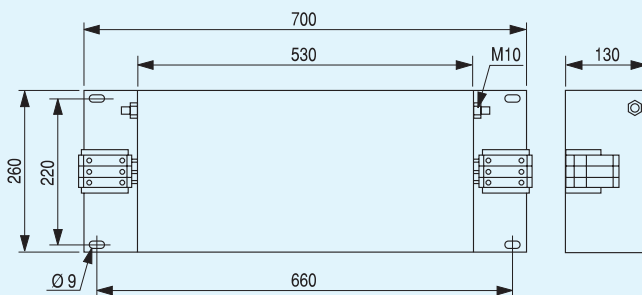
Dimensional drawings

Book filter

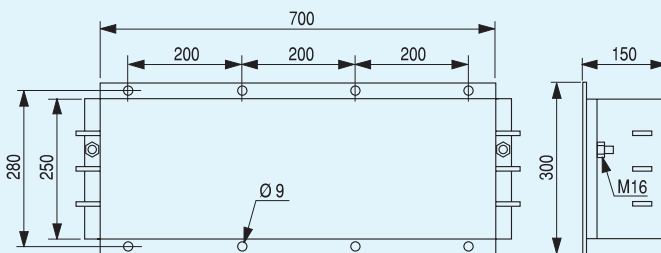


Cat. no.	Dimensions (mm)								Weight (kg)
	a	b	c	d	D1	E1	R	P	
COMP480-42	330	220	70	300	314	45	400	M6	2.8
COMP480-55	330	185	80	300	314	55	500	M6	3.1
COMP480-75	330	220	80	300	314	55	-	M6	4
COMP480-100	379	220	90	350	364	65	-	M10	5.5
COMP480-130	430	240	110	400	414	80	-	M10	7.5
COMP480-180	438	240	110	400	414	50	500	M10	11
COMP520-7	255	126	50	225	240	25	300	M5	1
COMP520-16	305	142	55	275	290	30	300	M5	1.3
COMP520-30	335	150	60	305	320	35	400	M5	1.65
COMP520-42	329	185	70	300	314	45	500	M6	2.25
COMP520-55	329	185	80	300	314	55	500	M6	2.5
COMP520-75	329	220	80	300	314	55	-	M6	3.35
COMP520-100	379	220	90	350	364	65	-	M10	4.5
COMP520-130	429	240	110	400	414	80	-	M10	5.7
COMP520-180	438	240	110	400	414	50	500	M10	6.1

Stand alone filter



Cat. no.	Weight (kg)
RANGER 520-280	28



Cat. no.	Weight (kg)
RANGER 520-450	45

Dimensions in mm.