



the spirit of improving

One Platform Intelliflex a.c. drives

Frequency Converters
7,5 to 600kW | Film Capacitors

Catalog



About Us

Since 1987 Sael has been developing integrated systems and process control solutions for industrial automation. A solid Italian company. A leader in paper mill automation, with important business in steel, plastic, rubber, CNC and metallic wire machines.

Two sites and over 50 employees in Italy, with hardware and software technical teams focused on projects and development.

12% of the budget is re-invested in R&D projects and new technology research.

Own AC and DC drives implementing the main field bus communication protocols.

Supervision control systems with own technology and system integration using the most popular Drives.

Our Mission

Based on Lean and Learning organization process, the customer is the main priority. The V.O.C. (Voice Of Customer) is our Spirit of Improving.

Our Vision

Developing better system automation and drives, means working to improve the quality of our customer's products. This is our job; this is our passion.

Good automation facilitates the works.

Everyone has the right to perform better, in safety, with high efficiency and offering competitive prices. This is our commitment.

Frequency Converters V-Series Drive

ONE PLATFORM

To meet any process control expectation, we built our VT, VG and VW frequency. A wide range of inverters, ac/ac and dc/ac, tough and rough, reliable and easy to drive. Our best technology ever.



the spirit of improving

Automation & Control Process

Sael drives have been developed to cater for all the latest needs and requirements of the present industrial production plants. The continuous improvement, and the years of field experience, guarantee a reliable and flexible product for any application.



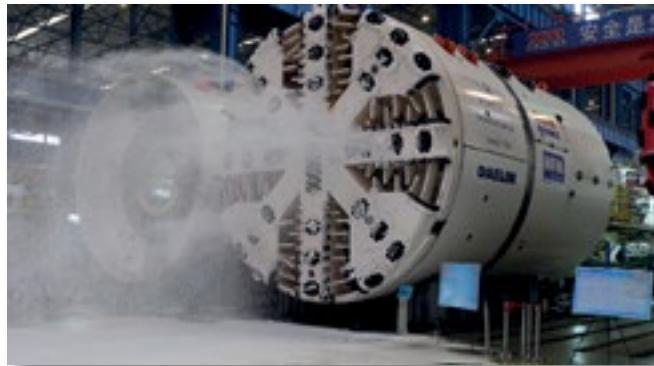
- Paper and film machines with sensorless control capability (if required, or in case of encoder fault avoid stopping in the continuous production).
- Conveyors (motor synchronization via MasterCan communication).
- Sheeter machines (built-in flying shear functionality with minimization of jerk and acceleration). According to the cutting length and the line speed, at each cut the trajectory profile which uses the minimum acceleration and jerk is calculated for the next cut.



The built-in functions together with the MasterCan board and the 2 CAN communication ports allow easy configuration of coordinated motion control of a number of motors, e.g. for continuous paper mills.

Automation & Control Process

- TBM (Tunnel Boring Machines) built in integrated control option for the automatic setting of the machine load torque sharing between the AC drives. (Motor synchronization via MasterCan communication). Capability to operate in sensorless control mode (also with long cables connection) with easy commissioning of the AC drives at standstill also with mechanical backlash.



All the Control-logic algorithms have been implemented in the drive: eg. load sharing, speed synchronization, cascading, web tension control (with or without dancing role or load cell) and many more. The drive also includes routines for other paper processing functionalities like the winder/unwinder machines with web tension control, rolling, pressing and cutting machines. All the functions for special applications are developed and tested with HIL (Hardware In the Loop) systems.



Image by courtesy of EXERGY SpA

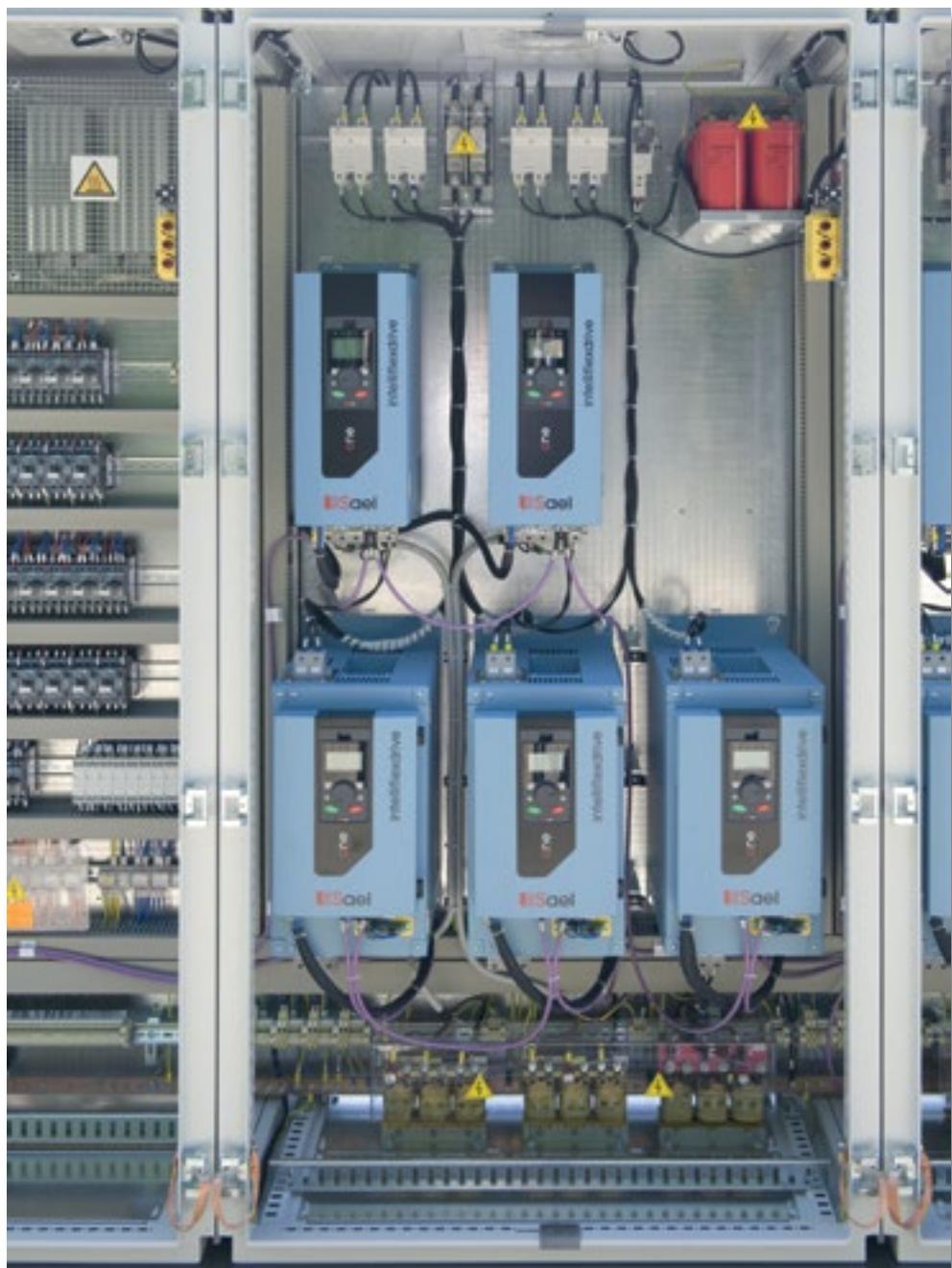
- Sustainable power generation.
- Smart Grid technology and applications.

One Drive Fits All

The long experience in the heavy-duty industry, has led to the last series of AC drives, which are characterized by a compact design, robust – all die-cast – and fast to install.

Due to the market requirements and the latest energy efficiency demands, the V drives support all the existing motor types, including **Induction Motors (IM)**, **Permanent Magnet Synchronous Motors (PMSM)** and **Synchronous Reluctance Motors** (SynRM).

The intuitive control panel and the removable eeprom unit leads to easy maintenance in case of replacement of the AC drive.



The Smart One

YOUR BACK-UP IN THE HAND

It is worth noting that the removable memory unit contains all the drive data and configuration. It makes replacement of the drive easy, in case of fault or maintenance. Extract the Flash memory from the broken drive, plug it into the new drive, and restart: no programming, no parameter setting, no skilled operator is required.

The drive commissioning and configuration is handled by the Web configuration interface, which is built-in the new series of Sael drives. In accordance with the international standards, SAEL drives are equipped with safety functions and safe torque-off (STO) certified.



Main features

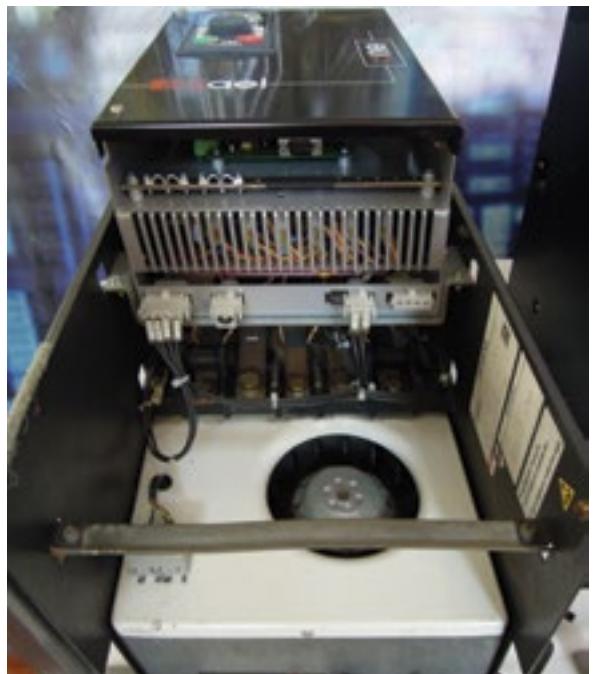
- Supports various motor types including Induction Motors (IM), Permanent Magnet Synchronous Motors (PMSM-SPM and PMSM-IPM) as well as Synchronous Reluctance Motors (SynRM)
- Removable EEPROM memory unit for easy start-up and board replacement
- Web interface for commissioning and settings
- **Integrated safety including safe torque off (STO)**
- Intuitive remote control panel (keypad)
- Support for a wide range of fieldbuses, input/output options and position/speed feedback
- EMC filter option
- $\frac{du}{dt}$ filter option for motor protection

Drivers and Components

REEBORN

The REEBORN program allows to renew drives and systems by using a specific digital regulation rack integrated with a new last generation automation architecture.

You can save more than 50% of the costs compared to a new equipment.





How to select a Drive

Most of the Intelliflex Drive are built-in as standard. This simplifies the selection. To choose the right drive for your application, please refer to the following rating tables. The selected drive has a unique type designation, which identifies the drive by construction, power and voltage range. The options are added to the type designation with a "plus" code.

MODEL IDENTIFICATION

VT	1	AC	4	100	/ Options / = Standard C = Compact N = Navy
				Rated Current (Value)	
			Voltage		
			4 = 400V		
			5 = 500V		
			6 = 690V		
		Input			
		AC = AC/AC Voltage input			
		DC = AC/DC Voltage input			
	Size				
	Frame 1 up to 5				
	X = Custom version only				
Product series					
VT – VG – VW					

nameplate:
E.g. VT1AC40100x



Technical Data & Option Boards

TECHNICAL DATA

Input voltage/ frequency	DC input: 250 to 1000 V_{DC} AC input (under request): 3-phase 360 to 480 V_{AC} ($\pm 10\%$) and mains frequency from 45 to 65 Hz ($\pm 10\%$)
Environmental limits and protections	Temperature: -15 to +55 °C (derating above 45 °C of 1% every 1°C) Vibrations: $\leq 5.9 \text{ m/s}^2$ Altitude: no derating up to 1000m, while a derating of 1% every 100m is mandatory. Maximum altitude is 4000m Humidity: no condensation allowed - IP20 protection degree
Parallels	An optical drive-to-drive communication allows the paralleling of more than one power units
Control algorithms	Sensorless control of IM, PMSM (both isotropic and anisotropic motor types) and SynRM with high overloading capability - Field Oriented Control (FOC) for IM, PMSM and SynRM motors with optimized flux weakening control - Flying restart functionality Open loop scalar V/F control with current monitoring (2-300% of the nominal speed) for IMs BLDC control option
Energy efficiency options	4-quadrant regenerative AFE (Active Front End) with low current distortion factor (THD) Maximum Torque Per Ampere (MTPA) option for PMSM and IMs Smart rectifier as regenerative braking energy (RBU)
Cooling method	Air/water cooled (depends on the frame/power size) – link to frame/rating table
Output voltage/ frequency	Output frequency from 0 to 300 Hz with settable output phase order 1 to 8 KHz Pulse Width Modulation (PWM) output voltages of 400/500/690 V ($f_{(x)}$ power module nominal rating)
Commissioning routines	Self-commissioning of the electric machine parameters at standstill Fine tuning and adaptive online identification algorithms - Speed and current loop auto tuning algorithms
Speed/position feedback	HTL, TTLPushPull and LineDriverpulse encoder with settable direction Sin/Cos encoder interface (optional board)
Steady state speed accuracy	Closed loop: $\pm 0.01\%$ of the nominal speed(FOC) for asynchronous and synchronous motors Closed loop sensorless mode: $\pm 15\%$ of the motor slip (IMs)
Connections and I/O interfaces	Isolated voltage supply (+24 V) 4 Analogue input and 2 Analogue Output 8 Digital and 6 Digital Output
Diagnostic and protections	Phase fault detection (alarms on each IGBT module) - Temperature monitoring Fault words with historic recording of the alarms Hardware and software protections against overload, over current, over voltage, short-circuit, over temperature etc.
Configurability and special functions	Web tension control of winder and unwinder machines for paper or steel (core+material inertia and roll diameter estimation, friction compensation etc.) Configurable position loop Drive-to-drive automatic synchronization (e.g. master and slave configurations, daisy-chaining to control machine axes etc.) Cam profiles generator and flying cut (typically used on slitter machines) Auxiliary fully settable PID controller Active power and torque estimation Normalization and math blocks (modulus, saturation blocks, comparators etc.) Non-linear gain blocks (e.g. interpolated loop gains) Configurable digital filters (HPF, LPF, notch)
Communication	Two RS232 interfaces to communicate with the PC-Tool or with the keypad One RS485 interface (as an alternative drive-to-drive link connection) Two CANbus lines (CAN A and CAN B). One expansion interface is available for communication with any fieldbus or industrial networks (e.g. ProfiNet, ProfiBus, EtherCat etc.)
Safety functionality	EN IEC 61800-5-2 Safe Torque off (STo) SIL3

OPTIONAL BOARDS

Communication	MasterCan module for coordinating up to 32 drives (it can be synchronized with other MasterCan modules) +CPDP: Profibus DP slave +CETH: Ethernet +CETI: Ethernet/IP +CETC: EtherCat
Speed/position feedback	+FESC: Second TTL – HTL – PushPull – LineDriver encoder +F2EN: Sin/Cos encoder interface
AFE/RBU	Synchronization board for AFE and RBU module
Paralleling	Optical fiber board for paralleling more than one power unit

Ratings, Types And Voltages VT Stand Alone Vectorial Inverters

FAN COOLING

NOMINAL VALUES					FEEDING		INTERNAL CAPACITANCE	POWER LOSSES	MODEL
Vn ac	Vn dc	In	Ipk	Pn	Idc@In	Idc@Ipk	C	Wd	
[V]	[V]	[A]	[A]	[KW]	[A]	[A]	uF	[W]	
400	400..750	15	21	7,5	17	24	600	110	VT2AC40015
500	500..850	15	21	9,9	17	24	500	150	VT2AC50015
690	600..1030	15	21	13,6	17	24	500	150	VT2AC60015
400	400..750	25	35	12	29	41	600	175	VT2AC40025
500	500..850	25	35	16	29	41	500	200	VT2AC50025
690	600..1030	25	35	23	29	41	500	200	VT2AC60025
400	400..750	38	53	16	43	61	600	250	VT2AC40037
500	500..850	38	53	25	43	61	500	300	VT2AC50037
690	600..1030	38	53	34	43	61	500	300	VT2AC60037
400	400..750	50	70	22	58	81	900	330	VT2AC40050
500	500..850	50	70	33	58	81	700	400	VT2AC50050
690	600..1030	50	70	45	58	81	700	400	VT2AC60050
400	400..750	75	105	37	86	122	900	500	VT2AC40075
500	500..850	75	105	49	86	122	700	600	VT2AC50075
690	600..1030	75	105	68	86	122	700	600	VT2AC60075
400	400..750	100	125	55	115	162	900	650	VT2AC40100
400	400..750	100	140	55	115	162	1500	700	VT3AC40100
500	500..850	100	140	66	115	162	1000	800	VT3AC50100
690	600..1030	100	140	91	115	162	1000	800	VT3AC60100
400	400..750	150	210	75,0	173	243	2250	950	VT3AC40150
500	500..850	150	210	99	173	243	1500	1200	VT3AC50150
690	600..1030	150	210	136	173	243	1500	1200	VT3AC60150
400	400..750	200	280	110,0	230	324	3000	1400	VT3AC40200
500	500..850	200	280	132	230	324	2000	1700	VT3AC50200
690	600..1030	200	280	182	230	324	2000	1700	VT3AC60200
400	400..750	250	310	132,0	288	405	3000	2000	VT3AC40250
500	500..850	250	310	165	288	405	2000	0	VT3AC50250
690	600..1030	250	310	227	288	405	2000	0	VT3AC60250



Ratings, Types And Voltages VT Stand Alone Vectorial Inverters

FAN COOLING

MODEL	DIMENSIONS				COOLING			FRAME	
	W	H	D	WEIGHT	Air Flow	SUPPLY			
	[mm]	[mm]	[mm]	[Kg]	m3/h	[V]/[W]	[A]		
VT2AC40015	180	660	330	19	240	24V/8W	0,33	2	
VT2AC50015	180	660	330	22	240	24V/8W	0,33	2P	
VT2AC60015	180	660	330	22	240	24V/8W	0,33	2P	
VT2AC40025	180	660	330	19	240	24V/8W	0,33	2	
VT2AC50025	180	660	330	22	240	24V/8W	0,33	2P	
VT2AC60025	180	660	330	22	240	24V/8W	0,33	2P	
VT2AC40037	180	660	330	19	310	24V/20W	0,83	2	
VT2AC50037	180	660	330	22	310	24V/20W	0,83	2P	
VT2AC60037	180	660	330	22	310	24V/20W	0,83	2P	
VT2AC40050	180	660	330	22	490	24V/40W	1,67	2P	
VT2AC50050	180	660	330	22	490	24V/40W	1,67	2P	
VT2AC60050	180	660	330	22	490	24V/40W	1,67	2P	
VT2AC40075	180	660	330	22	490	24V/40W	1,67	2P	
VT2AC50075	180	660	330	22	490	24V/40W	1,67	2P	
VT2AC60075	180	660	330	22	490	24V/40W	1,67	2P	
VT2AC40100	180	660	330	22	490	24V/40W	1,67	2P	
VT3AC40100	250	710	420	28	310	24V/20W	0,83	3	
VT3AC50100	250	710	420	28	310	24V/20W	0,83	3	
VT3AC60100	250	710	420	28	310	24V/20W	0,83	3	
VT3AC40150	250	710	420	30	490	24V/40W	1,67	3	
VT3AC50150	250	710	420	30	490	24V/40W	1,67	3	
VT3AC60150	250	710	420	30	490	24V/40W	1,67	3	
VT3AC40200	250	710	420	33	490	24V/40W	1,67	3	
VT3AC50200	250	710	420	33	490	24V/40W	1,67	3	
VT3AC60200	250	710	420	33	490	24V/40W	1,67	3	
VT3AC40250	250	710	420	39	490	24V/40W	1,67	3	
VT3AC50250	250	710	420	39	490	24V/40W	1,67	3	
VT3AC60250	250	710	420	39	490	24V/40W	1,67	3	

Ratings, Types And Voltages

VG Stand Alone Vectorial Inverters

FAN COOLING

NOMINAL VALUES					FEEDING		POWER LOSSES	MODEL
Vn ac	Vn dc	In	Ipk	Pn	Idc@In	Idc@Ipk	Wd	
[V]	[V]	[A]	[A]	[KW]	[A]	[A]	[W]	
400	400..750	150	210	75,0	173	242	1000	VG3AC40150
400	400..750	200	280	110,0	230	322	1400	VG3AC40200
400	400..750	300	425	160,0	345	489	2200	VG4AC40300
500	500..850	300	425	200,0	345	489	3000	VG4AC50300
690	600..1030	300	425	275,0	345	489	3800	VG4AC60300
400	400..750	450	500	250,0	518	575	3500	VG5AC40450
500	500..850	450	500	310,0	518	575	4500	VG5AC50450
690	600..1030	450	500	430,0	518	575	5500	VG5AC60450
400	400..750	600	700	355,0	690	805	4200	VG5AC40600
500	500..850	600	700	440,0	690	805	6000	VG5AC50600
690	600..1030	600	700	600,0	690	805	8000	VG5AC60600
400	400..750	300	425	160,0	345	489	2200	VG4AC40300C
500	500..850	300	425	200,0	345	489	3000	VG4AC50300C
690	600..1030	300	425	275,0	345	489	3800	VG4AC60300C
400	400..750	450	500	250,0	518	575	3500	VG5AC40450C
500	500..850	450	500	310,0	518	575	4500	VG5AC50450C
690	600..1030	450	500	430,0	518	575	5500	VG5AC60450C
400	400..750	600	700	355,0	690	805	4200	VG5AC40600C
500	500..850	600	700	440,0	690	805	6000	VG5AC50600C
690	600..1030	600	700	600,0	690	805	8000	VG5AC60600C

Ratings, Types And Voltages

VG Stand Alone Vectorial Inverters

FAN COOLING

MODEL	DIMENSIONS						FRAME	
	W	H	D	WEIGHT	SUPPLY			
	[mm]	[mm]	[mm]	[Kg]	[V]/[W]	[A]		
VG3AC40150	240	950	300	38	24V / 100W	4,2	3	
VG3AC40200	240	950	300	38	24V / 100W	4,2	3	
VG4AC40300	350	950	350	55	400V / 500VA 24V / 6W		4	
VG4AC50300	350	950	350	55	400V / 500VA 24V / 6W		4	
VG4AC60300	350	950	350	55	400V / 500VA 24V / 6W		4	
VG5AC40450	550	1150	320	102	400V / 500VA 24V / 6W		5	
VG5AC50450	550	1150	320	102	400V / 500VA 24V / 6W		5	
VG5AC60450	550	1150	320	102	400V / 500VA 24V / 6W		5	
VG5AC40600	550	1150	320	102	400V / 1500VA 24V / 9W		5	
VG5AC50600	550	1150	320	102	400V / 1500VA 24V / 9W		5	
VG5AC60600	550	1150	320	102	400V / 1500VA 24V / 9W		5	
VG4AC40300C	290	1100	470	57	400V / 500VA 24V / 6W		4 C	
VG4AC50300C	290	1100	470	57	400V / 500VA 24V / 6W		4 C	
VG4AC60300C	290	1100	470	57	400V / 500VA 24V / 6W		4 C	
VG5AC40450C	290	1200	565	102	400V / 1500VA 24V / 9W		5 C	
VG5AC50450C	290	1200	565	102	400V / 1500VA 24V / 9W		5 C	
VG5AC60450C	290	1200	565	102	400V / 1500VA 24V / 9W		5 C	
VG5AC40600C	290	1200	565	102	400V / 1500VA 24V / 9W		5 C	
VG5AC50600C	290	1200	565	102	400V / 1500VA 24V / 9W		5 C	
VG5AC60600C	290	1200	565	102	400V / 1500VA 24V / 9W		5 C	

OPTIONAL BOARDS

Communication	MasterCan module for coordinating up to 32 drives (it can be synchronized with other MasterCan modules) +CPDP: Profibus DP slave +CETH: Ethernet +CETI: Ethernet/IP +CETC: EtherCat
Speed/position feedback	+FESC: Second TTL – HTL – PushPull – LineDriver encoder +F2EN: Sin/Cos encoder interface
AFE/RBU	Synchronization board for AFE and RBU module
Paralleling	Optical fiber board for paralleling more than one power unit

Ratings, Types And Voltages VT Vectorial Inverters

FAN COOLING

NOMINAL VALUES					FEEDING		INTERNAL CAPACITANCE	POWER LOSSES	MODEL
Vn ac	Vn dc	In	Ipk	Pn	Idc@In	Idc@Ipk	C	Wd	
[V]	[V]	[A]	[A]	[KW]	[A]	[A]	uF	[W]	
400	400..750	15	21	7,5	17	24	600	110	VT2DC40015
500	500..850	15	21	9,9	17	24	500	150	VT2DC50015
690	600..1030	15	21	13,6	17	24	500	150	VT2DC60015
400	400..750	25	35	12	29	41	600	175	VT2DC40025
500	500..850	25	35	16	29	41	500	200	VT2DC50025
690	600..1030	25	35	23	29	41	500	200	VT2DC60025
400	400..750	38	53	16	43	61	600	250	VT2DC40037
500	500..850	38	53	25	43	61	500	300	VT2DC50037
690	600..1030	38	53	34	43	61	500	300	VT2DC60037
400	400..750	50	70	22	58	81	900	330	VT2DC40050
500	500..850	50	70	33	58	81	700	400	VT2DC50050
690	600..1030	50	70	45	58	81	700	400	VT2DC60050
400	400..750	75	105	37	86	122	900	500	VT2DC40075
500	500..850	75	105	49	86	122	700	600	VT2DC50075
690	600..1030	75	105	68	86	122	700	600	VT2DC60075
400	400..750	100	125	55	115	162	900	650	VT2DC40100
400	400..750	100	140	55	115	162	1500	700	VT3DC40100
500	500..850	100	140	66	115	162	1000	800	VT3DC50100
690	600..1030	100	140	91	115	162	1000	800	VT3DC60100
400	400..750	150	210	75,0	173	243	2250	950	VT3DC40150
500	500..850	150	210	99	173	243	1500	1200	VT3DC50150
690	600..1030	150	210	136	173	243	1500	1200	VT3DC60150
400	400..750	200	280	110,0	230	324	3000	1400	VT3DC40200
500	500..850	200	280	132	230	324	2000	1700	VT3DC50200
690	600..1030	200	280	182	230	324	2000	1700	VT3DC60200
400	400..750	250	310	132,0	288	405	3000	2000	VT3DC40250
500	500..850	250	310	165	288	405	2000	0	VT3DC50250
690	600..1030	250	310	227	288	405	2000	0	VT3DC60250



Ratings, Types And Voltages VT Vectorial Inverters

FAN COOLING

MODEL	DIMENSIONS				COOLING			FRAME	
	W	H	D	WEIGHT	Air Flow	SUPPLY			
	[mm]	[mm]	[mm]	[Kg]	m3/h	[V]/[W]	[A]		
VT2DC40015	180	510	330	17	240	24V/8W	0,33	2	
VT2DC50015	180	510	330	20	240	24V/8W	0,33	2P	
VT2DC60015	180	510	330	20	240	24V/8W	0,33	2P	
VT2DC40025	180	510	330	17	240	24V/8W	0,33	2	
VT2DC50025	180	510	330	20	240	24V/8W	0,33	2P	
VT2DC60025	180	510	330	20	240	24V/8W	0,33	2P	
VT2DC40037	180	510	330	17	310	24V/20W	0,83	2	
VT2DC50037	180	510	330	20	310	24V/20W	0,83	2P	
VT2DC60037	180	510	330	20	310	24V/20W	0,83	2P	
VT2DC40050	180	510	330	20	490	24V/40W	1,67	2P	
VT2DC50050	180	510	330	20	490	24V/40W	1,67	2P	
VT2DC60050	180	510	330	20	490	24V/40W	1,67	2P	
VT2DC40075	180	510	330	20	490	24V/40W	1,67	2P	
VT2DC50075	180	510	330	20	490	24V/40W	1,67	2P	
VT2DC60075	180	510	330	20	490	24V/40W	1,67	2P	
VT2DC40100	180	510	330	20	490	24V/40W	1,67	2P	
VT3DC40100	250	560	420	26	310	24V/20W	0,83	3	
VT3DC50100	250	560	420	26	310	24V/20W	0,83	3	
VT3DC60100	250	560	420	26	310	24V/20W	0,83	3	
VT3DC40150	250	560	420	28	490	24V/40W	1,67	3	
VT3DC50150	250	560	420	28	490	24V/40W	1,67	3	
VT3DC60150	250	560	420	28	490	24V/40W	1,67	3	
VT3DC40200	250	560	420	31	490	24V/40W	1,67	3	
VT3DC50200	250	560	420	31	490	24V/40W	1,67	3	
VT3DC60200	250	560	420	31	490	24V/40W	1,67	3	
VT3DC40250	250	560	420	37	490	24V/40W	1,67	3	
VT3DC50250	250	560	420	37	490	24V/40W	1,67	3	
VT3DC60250	250	560	420	37	490	24V/40W	1,67	3	

Ratings, Types And Voltages

VG Vectorial Inverters

FAN COOLING

NOMINAL VALUES					FEEDING		POWER LOSSES	MODEL
Vn ac	Vn dc	In	Ipk	Pn	Idc@In	Idc@Ipk	Wd	
[V]	[V]	[A]	[A]	[KW]	[A]	[A]	[W]	
400	400..750	50	70	25,0	58	81	350	VG2DC40050
400	400..750	75	105	37,0	86	121	500	VG2DC40075
400	400..750	100	140	55,0	115	161	650	VG2DC40100
400	400..750	150	210	75,0	173	242	1000	VG3DC40150
400	400..750	200	280	110,0	230	322	1400	VG3DC40200
400	400..750	300	425	160,0	345	489	2200	VG4DC40300
500	500..850	300	425	200,0	345	489	3000	VG4DC50300
690	600..1030	300	425	275,0	345	489	3800	VG4DC60300
400	400..750	450	500	250,0	518	575	3500	VG5DC40450
500	500..850	450	500	310,0	518	575	4500	VG5DC50450
690	600..1030	450	500	430,0	518	575	5500	VG5DC60450
400	400..750	600	700	355,0	690	805	4200	VG5DC40600
500	500..850	600	700	440,0	690	805	6000	VG5DC50600
690	600..1030	600	700	600,0	690	805	8000	VG5DC60600
400	400..750	300	425	160,0	345	489	2200	VG4DC40300C
500	500..850	300	425	200,0	345	489	3000	VG4DC50300C
690	600..1030	300	425	275,0	345	489	3800	VG4DC60300C
400	400..750	450	500	250,0	518	575	3500	VG5DC40450C
500	500..850	450	500	310,0	518	575	4500	VG5DC50450C
690	600..1030	450	500	430,0	518	575	5500	VG5DC60450C
400	400..750	600	700	355,0	690	805	4200	VG5DC40600C
500	500..850	600	700	440,0	690	805	6000	VG5DC50600C
690	600..1030	600	700	600,0	690	805	8000	VG5DC60600C

Ratings, Types And Voltages

VG Vectorial Inverters

FAN COOLING

MODEL	DIMENSIONS						FRAME	
	W	H	D	WEIGHT	SUPPLY			
	[mm]	[mm]	[mm]	[Kg]	[V]/[W]	[A]		
VG2DC40050	240	550	290	20	24V / 20W	1,7	2	
VG2DC40075	240	550	290	20	24V / 20W	1,7	2	
VG2DC40100	240	550	290	20	24V / 20W	1,7	2	
VG3DC40150	240	800	300	36	24V / 100W	4,2	3	
VG3DC40200	240	800	300	36	24V / 100W	4,2	3	
VG4DC40300	350	800	350	53	400V / 500VA 24V / 6W		4	
VG4DC50300	350	800	350	53	400V / 500VA 24V / 6W		4	
VG4DC60300	350	800	350	53	400V / 500VA 24V / 6W		4	
VG5DC40450	550	1000	320	100	400V / 500VA 24V / 6W		5	
VG5DC50450	550	1000	320	100	400V / 500VA 24V / 6W		5	
VG5DC60450	550	1000	320	100	400V / 500VA 24V / 6W		5	
VG5DC40600	550	1000	320	100	400V / 1500VA 24V / 9W		5	
VG5DC50600	550	1000	320	100	400V / 1500VA 24V / 9W		5	
VG5DC60600	550	1000	320	100	400V / 1500VA 24V / 9W		5	
VG4DC40300C	290	950	470	55	400V / 500VA 24V / 6W		4 C	
VG4DC50300C	290	950	470	55	400V / 500VA 24V / 6W		4 C	
VG4DC60300C	290	950	470	55	400V / 500VA 24V / 6W		4 C	
VG5DC40450C	290	1050	565	100	400V / 1500VA 24V / 9W		5 C	
VG5DC50450C	290	1050	565	100	400V / 1500VA 24V / 9W		5 C	
VG5DC60450C	290	1050	565	100	400V / 1500VA 24V / 9W		5 C	
VG5DC40600C	290	1050	565	100	400V / 1500VA 24V / 9W		5 C	
VG5DC50600C	290	1050	565	100	400V / 1500VA 24V / 9W		5 C	
VG5DC60600C	290	1050	565	100	400V / 1500VA 24V / 9W		5 C	

Ratings, Types And Voltages

VW Vectorial Inverters

WATER COOLING

NOMINAL VALUES					FEEDING		POWER LOSSES	MODEL
Vn ac	Vn dc	In	Ipk	Pn	Idc@In	Idc@Ipk	Wd	
[V]	[V]	[A]	[A]	[KW]	[A]	[A]	[W]	
400	400..750	100	140	55	115	162	700	VTW3DC40100
500	500..850	100	140	66	115	162	800	VTW3DC50100
690	600..1030	100	140	91	115	162	800	VTW3DC60100
400	400..750	150	210	75	172,5	243	950	VTW3DC40150
500	500..850	150	210	99	172,5	243	1200	VTW3DC50150
690	600..1030	150	210	136	172,5	243	1200	VTW3DC60150
400	400..750	200	280	110	230	324	1400	VTW3DC40200
500	500..850	200	280	132	230	324	1700	VTW3DC50200
690	600..1030	200	280	182	230	324	1700	VTW3DC60200
400	400..750	250	310	132	288	405	2000	VTW3DC40200
500	500..850	250	310	165	288	405	2400	VTW3DC50200
690	600..1030	250	310	227	288	405	2400	VTW3DC60200
400	400..750	315	425	175	362	403	2300	VW3DC40300
500	500..850	315	425	210	362	403	3000	VW3DC50300
690	600..1030	315	425	300	362	403	4000	VW3DC60300
400	400..750	315	425	175	345	489	2300	VW3DC40300C
500	500..850	315	425	210	345	489	3000	VW3DC50300C
690	600..1030	315	425	300	345	489	4000	VW3DC60300C
400	400..750	450	500	250	529	588	3500	VW4DC40450
500	500..850	450	500	300	529	588	4500	VW4DC50450
690	600..1030	450	500	420	529	588	5500	VW4DC60450
400	400..750	450	500	250	529	588	3500	VW4DC40450C
500	500..850	450	500	300	529	588	4500	VW4DC50450C
690	600..1030	450	500	420	529	588	5500	VW4DC60450C
400	400..750	600	670	330	705	787	4200	VW4DC40600
500	500..850	600	670	400	705	787	6000	VW4DC50600
690	600..1030	600	670	570	705	787	8000	VW4DC60600
400	400..750	600	670	330	705	787	4200	VW4DC40600C
500	500..850	600	670	400	705	787	6000	VW4DC50600C
690	600..1030	600	670	570	705	787	8000	VW4DC60600C

Ratings, Types And Voltages

VW Vectorial Inverters

WATER COOLING

MODEL	DIMENSIONS						FRAME	
	W	H	D	WEIGHT	SUPPLY			
	[mm]	[mm]	[mm]	[Kg]	[V]/[W]	[A]		
VTW3DC40100	250	560	420	24	15	1,5	T3	
VTW3DC50100	250	560	420	24	15	1,5	T3	
VTW3DC60100	250	560	420	24	15	1,5	T3	
VTW3DC40150	250	560	420	25	15	1,5	T3	
VTW3DC50150	250	560	420	25	15	1,5	T3	
VTW3DC60150	250	560	420	25	15	1,5	T3	
VTW3DC40200	250	560	420	28	15	1,5	T3	
VTW3DC50200	250	560	420	28	15	1,5	T3	
VTW3DC60200	250	560	420	28	15	1,5	T3	
VTW3DC40200	250	560	420	33	15	1,5	T3	
VTW3DC50200	250	560	420	33	15	1,5	T3	
VTW3DC60200	250	560	420	33	15	1,5	T3	
VW3DC40300	490	650	390	42	15	1,5	3	
VW3DC50300	490	650	390	42	15	1,5	3	
VW3DC60300	490	650	390	42	15	1,5	3	
VW3DC40300C	290	890	450	50	15	1,5	3 C	
VW3DC50300C	290	890	450	50	15	1,5	3 C	
VW3DC60300C	290	890	450	50	15	1,5	3 C	
VW4DC40450	570	650	390	56	15	1,5	4	
VW4DC50450	570	650	390	56	15	1,5	4	
VW4DC60450	570	650	390	56	15	1,5	4	
VW4DC40450C	290	890	550	59	15	1,5	4 C	
VW4DC50450C	290	890	550	59	15	1,5	4 C	
VW4DC60450C	290	890	550	59	15	1,5	4 C	
VW4DC40600	570	650	390	56	15	1,5	4	
VW4DC50600	570	650	390	56	15	1,5	4	
VW4DC60600	570	650	390	56	15	1,5	4	
VW4DC40600C	290	890	550	59	15	1,5	4 C	
VW4DC50600C	290	890	550	59	15	1,5	4 C	
VW4DC60600C	290	890	550	59	15	1,5	4 C	

Ratings, Types And Voltages

DCPS Power Supply Line

NOMINAL VALUES			FEEDING		POWER LOSSES	DIMENSIONS				MODEL
Vn	In	Ipk	Idc@In	Idc@Ipk	Wd@In	W	H	D	WEIGHT	
[V]	[A]	[A]	[A]	[A]	[W]	[mm]	[mm]	[mm]	[Kg]	
400	29	40	26	36	70	75	310	170	3	DCPS-C40025
500	29	40	26	36	80	75	310	170	3	DCPS-C50025
690	29	40	26	36	80	75	310	170	3	DCPS-C60025
400	58	81	50	70	130	230	290	200	9	DCPS-C40050
500	58	81	50	70	140	230	290	200	9	DCPS-C50050
690	58	81	50	70	140	230	290	200	9	DCPS-C60050
400	86	121	80	110	250	230	290	200	9	DCPS-C40075
500	86	121	80	110	300	230	290	200	9	DCPS-C50075
690	86	121	80	110	300	230	290	200	9	DCPS-C60075
400	115	161	105	145	330	230	345	200	10	DCPS-C40100
500	115	161	105	145	400	230	345	200	10	DCPS-C50100
690	115	161	105	145	400	230	345	200	10	DCPS-C60100
400	173	242	155	215	500	230	345	200	10	DCPS-C40150
500	173	242	155	215	600	230	345	200	10	DCPS-C50150
690	173	242	255	215	600	230	345	200	10	DCPS-C60150
400	230	322	205	290	650	230	345	200	10	DCPS-C40200
500	230	322	205	290	750	230	345	200	10	DCPS-C50200
690	230	322	205	290	750	230	345	200	10	DCPS-C60200
400	345	483	310	435	700	230	345	200	11	DCPS-C40300
500	345	483	310	435	800	230	345	200	11	DCPS-C50300
690	345	483	310	435	800	230	345	200	11	DCPS-C60300
400	518	569	440	485	950	230	345	200	11	DCPS-C40450
500	518	569	440	485	1200	230	345	200	11	DCPS-C50450
690	518	569	440	485	1200	230	345	200	11	DCPS-C60450
400	690	759	585	645	1400	550	590	305	40	DCPS-C40600
500	690	759	585	645	1700	550	590	305	40	DCPS-C50600
690	690	759	585	645	1700	550	590	305	40	DCPS-C60600
400	1035	1139	880	970	2000	550	590	420	50	DCPS-C40900
500	1035	1139	880	970	2400	550	590	420	50	DCPS-C50900
690	1035	1139	880	970	2400	550	590	420	50	DCPS-C60900

Ratings, Types And Voltages

DCPS Power Supply Line

MODEL	DIMENSIONS				COOLING			FRAME	
	W	H	D	WEIGHT	AIR FLOW	SUPPLY			
	[mm]	[mm]	[mm]	[Kg]	m3/h	[V]/[W]	[A]		
DCPS-C40025	75	310	170	3	100	24V / 3W	0,2	150	
DCPS-C50025	75	310	170	3	100	24V / 3W	0,2	150	
DCPS-C60025	75	310	170	3	100	24V / 3W	0,2	150	
DCPS-C40050	230	290	200	9				230	
DCPS-C50050	230	290	200	9				230	
DCPS-C60050	230	290	200	9				230	
DCPS-C40075	230	290	200	9				230	
DCPS-C50075	230	290	200	9				230	
DCPS-C60075	230	290	200	9				230	
DCPS-C40100	230	345	200	10	180	24V / 8W	0,3	230	
DCPS-C50100	230	345	200	10	180	24V / 8W	0,3	230	
DCPS-C60100	230	345	200	10	180	24V / 8W	0,3	230	
DCPS-C40150	230	345	200	10	490	24V / 40W	1,7	230	
DCPS-C50150	230	345	200	10	490	24V / 40W	1,7	230	
DCPS-C60150	230	345	200	10	490	24V / 40W	1,7	230	
DCPS-C40200	230	345	200	10	490	24V / 40W	1,7	230	
DCPS-C50200	230	345	200	10	490	24V / 40W	1,7	230	
DCPS-C60200	230	345	200	10	490	24V / 40W	1,7	230	
DCPS-C40300	230	345	200	11	310	24V / 100W	4,2	230	
DCPS-C50300	230	345	200	11	310	24V / 100W	4,2	230	
DCPS-C60300	230	345	200	11	310	24V / 100W	4,2	230	
DCPS-C40450	230	345	200	11	490	24V / 100W	4,2	230	
DCPS-C50450	230	345	200	11	490	24V / 100W	4,2	230	
DCPS-C60450	230	345	200	11	490	24V / 100W	4,2	230	
DCPS-C40600	550	590	305	40	490	24V / 100W	4,2	520	
DCPS-C50600	550	590	305	40	490	24V / 100W	4,2	520	
DCPS-C60600	550	590	305	40	490	24V / 100W	4,2	520	
DCPS-C40900	550	590	420	50	1000	"400V / 500VA 24V / 6W"	1,5	4 C	
DCPS-C50900	550	590	420	50	1000	"400V / 500VA 24V / 6W"	1,5	4 C	
DCPS-C60900	550	590	420	50	1000	"400V / 500VA 24V / 6W"			

Regenerative Solutions

Common DC bus components by Sael can be configured as an active front-end (AFE) unit as well as smart rectifier, i.e. as regenerative braking energy unit (RBU). In processes with frequent and high energy breaking, the AFE and RBU from Sael, allows for energy recovery into the mains network, avoiding wasting, avoiding wasting energy as heat with braking resistors. Typical applications are the Winders and Unwinder machines, Cranes, Winches, Conveyors and Tunnel Boring Machines (TBMs).



Connectivity

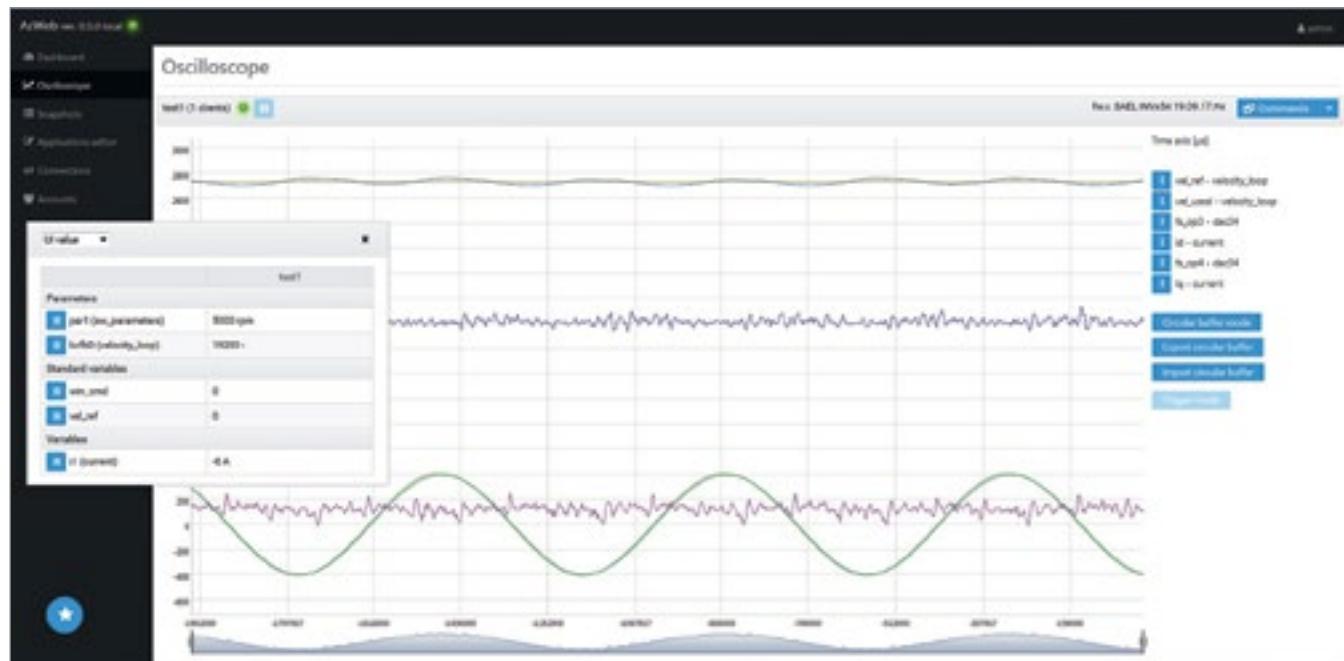
AZWEB & AZRUNNER INTERFACE

The win-based AzRunner interface represents the standard PC software tool, which can be used for an easy single drive commissioning or during a complete multi-drive machine tuning.



Main features:

- Single drive connection via RS232 or drive-to-drive interfacing via RS485/Mcan:
- Parameter setting and signal/variable monitoring
- Quick parameters comparison
- Back-up and restore tool for drive parameter cloning
- Documentation wizard with detailed description of parameters, variables or functional block.
An online update downloads the revision of the FW help.
- An online oscilloscope with multiple signals recording can be triggered on a signal edge.
- Simplified CAN management or fieldbus network via Anybus



Connectivity

AZWEB & AZRUNNER INTERFACE

The AzWeb interface is an optional cross-platform SW tool, which guarantees the connectivity among a wide range of systems; from smartphones and standard laptop to UNIX workstations or any other device with web-capability.

The tool ensures the same functionality of AzRunner, and it include the parameter settings, download and compare multiple configuration settings, configure a real time tracking of desired signals (with the capability of triggering on a specific event) and remote handling of the AC drive.

Snapshots comparison tool				
Historical		Current (Sael.WWx54 19:26 17.04.2017)		
Name	Value	Previous value	Status	
Root	90	90	▲	
+ Basic Parameters			▲	
+ V/F scalar control			▲	
Bemf	90	90	▲	
i_vrefID	0.004e+00M	0.004e+00M		
Rex_max	811	811	▲	
Rex_ref	1422	1422		
Rex_VB	2	66		
Rex_base	3007	3007		
Lsens	3181	3181		
Ox_max	200	150		
mem0	90	90		
MotorNomPower	0.800000011629	0.800000011629		
ps_m0D	1	1		
power10	6414	1444		
ppwm0D	1024	1024		
tauR	10	10		
u_norm	3077	3077		
vel_maxP	1501	1501		
vel_maxD	2300	2300		
velocity_limit	3000	3000		
Current				
Velocity Loop				

Additional Features:

- Allows the parameterization and monitoring of the AC drive via any Windows, Mac, Android, iOS, Unix device
- Works over any TCP/IP connection
- Works over local area networks as well as Internet connections
- Secure authentications guaranteed

Dashboard						
Test (1 slaves)		Slave selected				
Description	Num	Name	U/I value	I/U value	U/I	Actions
Root	0	i_dclctar	420	0	0	
+ Basic Parameters	1	dccl_m0I	421	1	1	
+ V/F scalar control	2	dccl_m0h	422	-2	-2	
Current	3	dccl_ofs	423	0	0	
+ Velocity Loop	4	dccl_ofs_ar	424	0.004e+00M	0.004e+00M	
Encoders	5	dccl_m0I	425	1	1	
mtr	6	dccl_m0h	426	0	0	
+ Analog I/O	7	dccl_ofs	427	0	0	
Digital I/O	8	i_Au_ipd	428	0.404e+00M	0.404e+00M	
Digital Output	9	i_Au_ipd	429	Precal	Precal	
+ Axis/secondary	10	i_Au_m0I	430	0.200	0.200	
Flux and Tr estimator	11	i_Au_m0I	431	0.200	0.200	
Inverter	12	i_Au_m0h	432	0	0	
+ sensorless M0 type1	13	rel_L0ed	433	0	0	
sensorless M0 type2	14	rel_L0ed	434	0	0	
sensorless PMSM/SymPM	15	rel_L0ed	435	0.200	0.200	
+ auto_start	16	tp_ref	436	0	0	
granted	17	tp_ref	437	4	4	

Connectivity

RKC – REMOTE KEYPAD CONTROL

The Multilingual alphanumeric keypad panel features intuitive use as well as easy navigation. The panel integrates all the PC-tool functionality. It basically provides the following features:

- Backup and restore function of all the parameters of the drive
- Parameter settings and variable monitoring
- Local start/stop of the drive with speed/torque reference set point

Friendly jog/shuttle key to increase quickly the set point reference.



Automation

SUPERVISION – DCS IN DRIVE

The Supervisor in combination with the Engineering Station is a powerful control device. It allows quick and easy management of each single working process by direct operator engagement. The architecture is based on windows with driving programs on SCALINK and MMI-SCADA platforms: fully available to programming key holders.

The package is completed by the remote assistance IWSA (Internet World Sael Assistance).





the spirit of improving

For more information please contact our Commercial Team or visit: www.sael.it

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Sael