

# IRIS BLUE 2T/4T



SUPPLY VOLTAGE  
2T = 200-240 VAC  
4T = 380-480 VAC

**3 YEARS**  
**WARRANTY**

## *Water, Fans and Compressor Applications* *5-function, 3 kW to 300 kW Motor Control Drives:*

- Three-phase Asynchronous Motors
- Wide range of AC supply voltages: 200 to 480 Vac
- Input frequency: 50-60 Hz
- Degree of protection: IP00, IP20, IP54
- Compatible with the RemoteDrive software allowing remote control
- Maximum energy efficiency



**TOP EFFICIENCY DRIVE**  
**CDM IE2 according to**  
**IEC 61800-2**

## TECHNICAL FEATURES

- Intelligent cooling system. Through-Hole mounting, segregation of forced air flow channels
- Built-in EMC filters in the whole range, in compliance with EN61800-3 2nd ed, second environment category C3
- 11-key control panel and wide LCD backlit screen
- Motor PTC thermal probe control. Built-in motor thermal protection
- Built-in digital potentiometer. Built-in multifunction tester
- Programmable logic blocks
- Reduced motor noise, with random modulation and carrier frequency up to 16 kHz (depending on models)
- Measurement of the energy delivered to the pump (kWh)
- Pump working hour meter
- Saving of the operating parameters on the keypad or on a PC and possibility of transfer to multiple inverters
- Automatic calibration for motor parameter tuning
- Programmable multiple acceleration and deceleration ramps
- Controlled stop of the motor up to zero speed in the event of a power failure
- Fault list

## I/O STANDARD

- 8 programmable digital inputs and MPL logic blocks
- 3 programmable analog inputs 0-10 Vdc, 0(4)-20 mA, PTC
- 4 programmable digital outputs (2 switchover relays, 1 open collector, 1 push-pull)
- 3 programmable analog outputs 0-10 Vdc, 0(4)-20 mA
- Serial RS485 communication with MODBUS RTU protocol
- Compatible with "IRIS CONTROL" software, for remote control

## OPTIONS

- Input reactors to limit current peaks and reduce supply harmonic current
- du/dt output reactors to limit current peaks due to the parasitic capacitance of the cables
- IP54 Degree of Protection
- Kit for IP21 Degree of Protection
- Fieldbus and comms cards: Profinet IRT, Ethernet IP, EtherCAT, Modbus TCP, Profibus DP, DeviceNet, PROFIdrive, CANOpen
- I/O expansion cards
- Datalogger and Real Time Clock cards
- Remote control – [www.hydrofast.it](http://www.hydrofast.it)

## POWER/VOLTAGE RANGE OF THE CONNECTED MOTOR

- 3.0~132 kW 200÷240 Vac
- 4.5~250 kW 380÷415 Vac
- 5.5~280 kW 440÷460 Vac
- 6.5~300 kW 480 Vac

## VOLTAGE AND FREQUENCY OF THE MAINS VAC SUPPLY

- 2T: 200÷240 Vac, three-phase, -15% +10% 50÷60 Hz
- 4T: 380÷480 Vac, three-phase, -15% +10% 50÷60 Hz

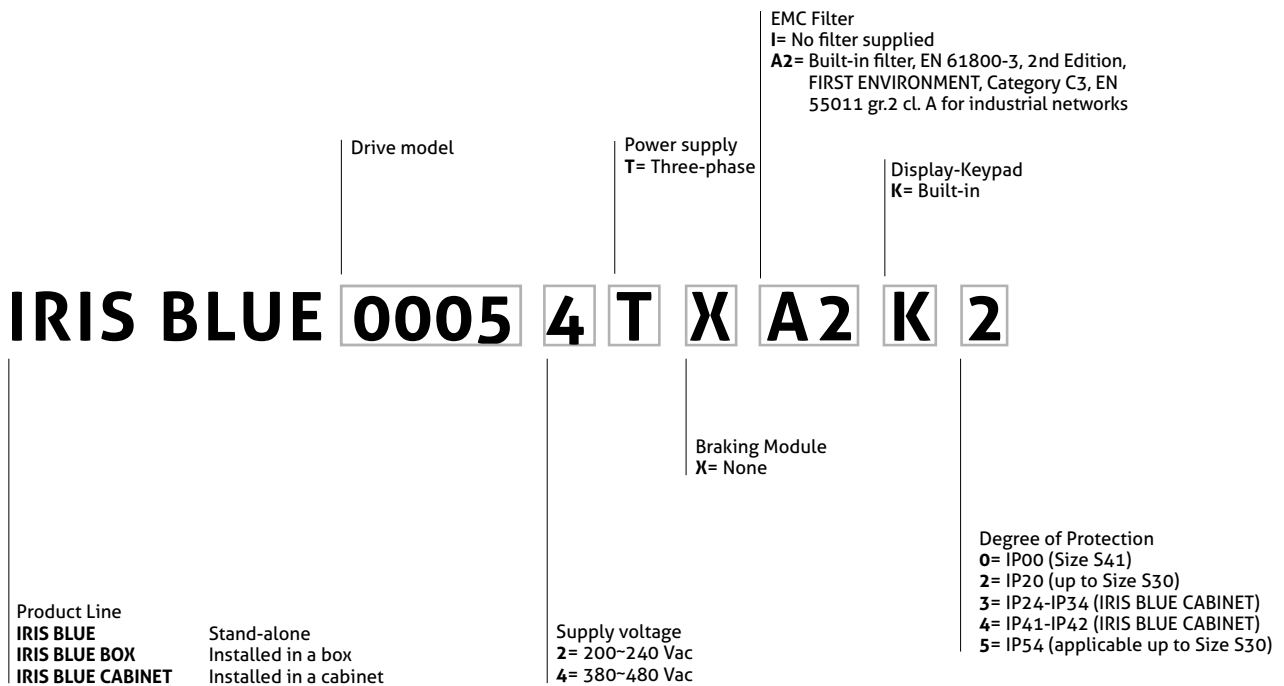
## AMBIENT TEMPERATURE

- 10 °C to 50 °C with no derating (or 2% / °C over 40 °C, based on the inverter model)

# IRIS BLUE 2T/4T



## PRODUCT SELECTION CHART



## DIMENSIONS AND WEIGHTS - IP20-IP00 MODELS

Size	W (mm)	H (mm)	D (mm)	Weight (kg)
505	170	340	175	7
512	215	401	225	12.5
515	225	466	331	22.5
520	279	610	332	36
530	302	748	421	51
541	500	882	409	121

**WATER - DEDICATED FUNCTIONS**

The IRIS BLUE series of frequency converters is equipped with many features that allow to control in an optimal way pumping systems and water treatment processes.

**DRY RUN CONTROL SYSTEM**

Stop in case of lack of flow.

**ADVANTAGES:**

Pump protection, energy saving.

**CONTROL OF THE LEVEL**

Tank filling and emptying control of wastewater. The speed of the pumps will vary with the change in the demand from the utilities, which is typically diversified throughout the day.

**ADVANTAGES:**

Maximizes tank exchange capacity so as to ensure a stable release of EU waters to systems for their treatment.

**DOUBLE RAMP (INITIAL RAMP)**

The initial ramp provides rapid acceleration of the pumps up to minimum speed, after which the inverter uses the normal ramp.

**ADVANTAGES:**

Prevents damage to the bearings. Check of flow or sensorless pressure control. Protection of submersible pumps.

**PIPE FILLING CONTROL**

The soft start of the pump allows to reach gradually the desired flow rate in the pipes, avoiding pressure peaks (for example in irrigation systems, where the pipes remain temporarily empty and controlled filling is required).

**ADVANTAGES:**

Elimination of water hammer, increases the useful life of the distribution network and pumping system.

**ALTERNATING OF MOTOR**

Motor management according to demand, standardizing operative hours.

**ADVANTAGES:**

Redundancy, reduction of costs.

**FIRE MODE**

Forced operation of the converter, even in the case of alarms (for example for fire pump management).

The converter continues its regular operation even in the most extreme conditions, until possible self-destruction.

**ADVANTAGES:**

Safeguard of human life.

**SLEEP/WAKE UP MODE**

The IRIS BLUE converter is able to maintain the reference pressure even in situations where the flow demand is minimum and the pump runs at low speed. Prolongation of this condition leads to the shutdown of the pump. Pumping resumes when pressure falls below the minimum level.

**ADVANTAGES:**

This function prolongs the delay time of the pump and saves energy. Avoiding non-productive operation, in addition, it extends the useful life of the motor and the pump. Reduced noise level in low load situations.

**MULTIPUMP**

Flow, level, pressure, etc. adjustments, managing

The slave pump control according to the regulator's request (internal PID). The function allows the control of all slave pumps at fixed speed (connected to the network with remote or soft starter) or at adjustable speed. Allows balancing of pump during operating hours and cyclic exchange between pumps in service and pumps available to run. All this is possible without the aid of external equipment.

**ADVANTAGES:**

Water hammer and sudden pressure variations are avoided which reduce the life-time of transmission organs and control equipment fluids (pipes, valves, etc.) typical of an operation with pumps with an On/Off control.

**PRESSURE LOSS**

When the pump works at maximum speed without creating the desired pressure means that there are anomalies. This function detects leaks or breaks in the pipes, sending an alarm usable to stop the pump or as input for other actions.

**ADVANTAGES:**

Pump protection, leak monitoring.

**SAFE TORQUE OFF**

Function for freewheel stop with safe inhibition of motor torque. For many applications with inverter the STO function is required to proceed with the most common operations (to e.g. maintenance). This function can be achieved with additional external components (e.g. contactors) that put the system in a safe state or through the function STO integrated in the IRIS BLUE frequency converter.

**ADVANTAGES:**

The use of this integrated solution simplifies the design of the safety circuit and reduces installation cost and occupied space.

**ENVIRONMENTAL CONDITIONS**

Designed according to the guidelines of IEC 60721-3-3, Category 3C2

# IRIS BLUE 2T/4T



**LIGHT OVERLOAD UP TO 120% (120s) OR 144% (3s)**  
**Power supply up to 480 Vac**

IRIS BLUE Model	2T			4T									Inom. A	Imax A	Ipeak (3s) A	
	200-240 Vac			380-415 Vac			440-460 Vac			480 Vac						
	kW	HP	A	kW	HP	A	kW	HP	A	kW	HP	A				
<b>Size S05</b>																
IRIS BLUE 0005	-	-	-	4.5	6	9	5.5	7.5	9.7	6.5	9	10.2	10.5	11.5	14	
IRIS BLUE 0007	3	4	11.2	5.5	7.5	11.2	7.5	10	12.5	7.5	10	11.8	12.5	13.5	16	
IRIS BLUE 0008	3.7	5	13.2	-	-	-	-	-	-	-	-	-	15	16	19	
IRIS BLUE 0009	-	-	-	7.5	10	14.5	9.2	12.5	16	9.2	12.5	14.3	16.5	17.5	19	
IRIS BLUE 0010	4	5.5	14.6	-	-	-	-	-	-	-	-	-	17	19	23	
IRIS BLUE 0011	-	-	-	7.5	10	14.8	9.2	12.5	16	11	15	16.5	16.5	21	25	
IRIS BLUE 0013	4.5	6	15.7	-	-	-	-	-	-	-	-	-	19	21	25	
IRIS BLUE 0014	-	-	-	7.5	10	14.8	9.2	12.5	16	11	15	16.5	16.5	25	30	
IRIS BLUE 0015	5.5	7.5	19.5	-	-	-	-	-	-	-	-	-	23	25	30	
IRIS BLUE 0016	7.5	10	25.7	-	-	-	-	-	-	-	-	-	27	30	36	
IRIS BLUE 0020	9.2	12.5	30	-	-	-	-	-	-	-	-	-	30	36	43	
<b>Size S12</b>																
IRIS BLUE 0016	-	-	-	11	15	21	15	20	25	15	20	23.2	27	30	36	
IRIS BLUE 0017	-	-	-	15	20	29	18.5	25	30	18.5	25	28	30	32	37	
IRIS BLUE 0020	-	-	-	15	20	29	18.5	25	30	18.5	25	28	30	36	43	
IRIS BLUE 0023	11	15	36	-	-	-	-	-	-	-	-	-	38	42	51	
IRIS BLUE 0025	-	-	-	22	30	41	22	30	36	22	30	33	41	48	58	
IRIS BLUE 0030	-	-	-	22	30	41	22	30	36	25	35	37	45	56	67	
IRIS BLUE 0033	15	20	50	-	-	-	-	-	-	-	-	-	51	56	68	
IRIS BLUE 0034	-	-	-	30	40	55	30	40	48	37	50	53	57	63	76	
IRIS BLUE 0036	-	-	-	30	40	55	37	50	58	37	50	53	60	72	86	
IRIS BLUE 0037	18.5	25	61	-	-	-	-	-	-	-	-	-	65	72	83	
<b>Size S15</b>																
IRIS BLUE 0040	22	30	71	37	50	67	45	60	70	50	70	70	72	80	88	
IRIS BLUE 0049	25	35	80	45	60	80	50	65	75	55	75	78	80	96	115	
<b>Size S20</b>																
IRIS BLUE 0060	28	38	88	50	70	87	55	75	85	65	90	88	88	112	134	
IRIS BLUE 0067	30	40	96	55	75	98	65	90	100	75	100	103	103	118	142	
IRIS BLUE 0074	37	50	117	65	90	114	75	100	116	85	115	120	120	144	173	
IRIS BLUE 0086	45	60	135	75	100	133	90	125	135	90	125	127	145	155	186	
<b>Size S30</b>																
IRIS BLUE 0113	55	75	170	100	135	180	110	150	166	132	180	180	180	200	240	
IRIS BLUE 0129	65	90	195	110	150	191	125	170	192	140	190	195	195	215	258	
IRIS BLUE 0150	70	95	213	120	165	212	132	180	198	150	200	211	215	270	324	
IRIS BLUE 0162	75	100	231	132	180	228	150	200	230	175	238	240	240	290	324	
<b>Size S41</b>																
IRIS BLUE 0180	90	125	277	160	220	273	200	270	297	220	300	300	300	340	408	
IRIS BLUE 0202	110	150	332	200	270	341	220	300	326	250	340	337	345	420	504	
IRIS BLUE 0217	120	165	375	220	300	375	250	340	366	260	350	359	375	460	552	
IRIS BLUE 0260	132	180	390	250	340	421	280	380	410	300	410	418	445	560	672	
<b>Drive Power Supply</b>	200-240 Vac			380-480 Vac												

Note: Motor current ratings relate to IE2-efficiency, 4-pole standard motors

**IRIS BLUE IP54 MODELS**

- The IRIS BLUE product line features a whole range of IP54 models suitable for environments characterized by a strong presence of dust and water (up to IRIS BLUE S30).
- The robust metal enclosure fits outdoor installation requiring no cabinet.

**DIMENSIONS AND WEIGHTS - IP54 MODELS**

<b>Size</b>	<b>W (mm)</b>	<b>H (mm)</b>	<b>D(mm)</b>	<b>Weight (kg)</b>
505 *	214	577	227	15.7
512	250	622	268	23.3
515	288	715	366	40
520	339	842	366	57
530	359	1008	460	76

\* The IRIS BLUE 0020 2T model is not available with degree of protection IP54