

Price offer: smart irrigation systems

UNIFREM 400 is the latest generation of frequency converters family. All UNIFREM converters allow vector control of both induction and synchronous motors and high performance scalar (V/f) control as well. They are designed to solve any drive problem in the most cutting-edge applications. The family is specified by its user-friendly settings and control, users are guided by the graphic control panel (UNIPANEL). The latest generation of MITSUBISHI power electronics has been used for minimization of losses.

High resistance against faults

UNIFREM includes protection against overvoltage, undervoltage, current overloading of converter, short circuit between input phases and overheating. Input and output phase loss are detected as well. Overheating of motor is suppressed by calculating the heat integral of the motor.

Minimal losses – “lossless” converter

Use of the newest power electronics has lowered and minimalized converter losses and power grid disturbance.

Smaller dimensions

By the use of power optimized heat sink together with improved heat-transfer-targeted placement of power components smaller dimensions have been achieved.

High reliability

The latest generation power capacitors with extended operating temperature and lifetime by 20% as well as the newest power electronics components have been used. The cooling fans with magnetic bearings „Magnetic Levitation System“ ensure longer lifetime and lower noise level.

Motor and generator control

UNIFREM drives allow high-performance control of both induction and synchronous motors for wide variety of industrial applications. Robust but reliable scalar control and high-performance vector control with automatic online tuning of the motor parameters (stator resistance, magnetic saturation ...) can guarantee smooth operation for almost any motor or generator.

Pump control

UNIFREM drives offer a lot of features for efficient pump control

- High efficiency
- Flux optimization by nonlinear V/f curve
- Maximization of power produced by inbuilt universal optimization block





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- Kinetic backup of short supply power failures
- Flying start
- Excellent overloading withstand

Powerful software features

- Interactive communication with converter using UNIPANEL manual panel
- Hierarchical structure of parameters allows easier configuration and being aware of mutual dependencies among various parameters
- Same possibilities of configuration and control by (SPI, UNIPANEL, CANopen...)
- Unified handling and independence of communication protocols (USB, RS485, CAN)
- Universally programmable a combinable logical blocks (AND, OR, NAND, NOR, XOR, RS flip-flop) – built-in PLC.
- Independent and fully configurable process PID controller
- Programmable universal optimization (for example: minimization of power, maximization of torque...)
- Process PID controller (various action variables, rich configuration possibilities)
- Universal and fully configurable system of inputs and outputs
- 4 independent parameter sets, switchable on-the-run

Communication with other systems

Support of following industrial communication protocols: CANopen, MODBUS, PROFIBUS DP.

Events and faults history

Configurable history of faults, warnings and other events. Stores up to 1000 items (black box).

VONSCH Drive Studio

Application for configuration, diagnostics and archiving of settings to PC. It allows: firmware upgrade, process diagnostic "black box" data. Diagnostics of faults and events helps the operator to solve the problems and avoid the future ones.

Voltage

We offer a wide range of drives, it is possible to control motors of rated voltage in the range 100V – 400V.

General technical data

Input voltage range:	200 – 600 V DC from solar panels
Input frequency:	47 to 63 Hz
Output voltage range:	3 x 0 to 100% of input voltage
Output frequency:	0 ÷ 500 Hz
Efficiency of the converter:	more than 98.5 %
Analog inputs:	4 programmable analog inputs (Options: 0 ÷ 20 mA , 4 ÷ 20 mA , 0 ÷ 10 V , 2 ÷ 10 V)
Digital inputs:	6 digital programmable inputs 1 digital safety input EN 13849-1 class 3 software adjusted control voltage (+ 24 V or 0 V)
Digital outputs:	3 programmable relay outputs
Analog outputs:	3 analog programmable outputs 0 ÷ 20 mA or 4 divide; 20 mA
Starting motor torque:	to 200 % T _n (according to the type of motor)



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Electronic protection against:	overcurrent, overvoltage, undervoltage, short circuit protection, ground fault protection, converter overtemperature, motor overtemperature
Cooling:	forced air cooling by built-in fan
Electromagnetic compatibility (EMC):	Built-in RFI filter of category B according to EN 61 000-6-4
Elimination of higher harmonic components of voltages and currents	built-in three phase choke lowers harmonic currents, extends lifetime of power capacitors, protects converter against voltage peaks
Permissible ambient temperature during operation:	+ 1 °C to + 40 °C (EN 50178)
Degree of protection:	IP20, IP55 possible in enclosure-based modification

Price quotation:

Model	Power	Deep	Inverter in euro	Sinus. filter in euro
400V - 007	7,5 kW	120 m	890	390
400V - 011	11 kW	120-150 m	1 490	430
400V - 015	15 kW	150 m	1 590	540
400V - 018	18 kW	180 m	1 850	720
400V - 022	22 kW	200 m	2 080	860
400V - 030	30kW	according to project	2 150	980
400V - 037	37 kW	according to project	2 280	1 180
400V - 045	45 kW	according to project	2 820	1 220
400V - 055	55 kW	according to project	3 590	1 630

All prices are net prices, tax/duty unpaid, Ex. Works Slovakia, Incoterms 2010.

Sinusoidal filter is recommended at a cable length of 50 m, according to project.

In Bratislava, August 2015