

Property		Single-phase													Three-phase				
		Autotransformer							Electronic						Autotransformer				
		ARW	ARW/S	ARWE	ARWT	ARH	ARM	ARWD	ARE	AREB	ARES	ARED	AREX	AREX/A	A3RW	A3RWE	A3RW/BOX	A3RM	A3RWD
Number of phases	Single-phase	X	X	X	X	X	X	X	X	X	X	X	X	X					
	Three-phase														X	X	X	X	X
Regulation type	5-level speed regulation	X	X	X	X		X	X							X	X	X	X	X
	3-level speed regulation					X													
	Smooth speed regulation								X	X	X	X	X	X					
Regulation type	Manual speed regulation	X	X		X			X	X	X	X	X			X		X		X
	Speed control by analogue signal			X									X	X		X			
	Control by 230V AC voltage switching					X													
	Speed control using MODBUS transmission													X					
Regulation method	Autotransformer speed regulation	X	X	X	X	X	X	X							X	X	X	X	X
	Electronic (phase) speed regulation								X	X	X	X	X	X					
Control inputs	Input for fan engine temperature sensor		X	X				X							X	X	X		X
	Input to antifreeze sensor		X					X							X		X		X
	Possibility of controlling turning on and off by external contacts.		X	X				X							X	X	X		X
	Input for control signal 0..10VDC			X									X	X		X			
	Clock input for day/night switching							X											X
Installation	For installation onto DIN rail											X							
	Surface mounting	X	X	X	X			X	X	X	X	X	X	X	X	X	X		X
	Concealed mounting									X									
	For installation into switchgear						X											X	
Additional functions	In-built room thermostat				X														
	Possibility of setting minimum voltage								X	X		X							
	Autonomous operation after sending the instructions using MODBUS protocol													X					
	230VAC output		X	X				X			X		X	X	X		X		X
	Manual restart after reaction to signals from external sensors																X		X
	Automatic restart after the end of reaction on external sensors	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	
	Day/night							X											X
	Settings memory	X	X	X	X			X	X	X	X	X	X	X	X	X			X
Protection level	IP00						X											X	
	IP23														X	X	X		X
	IP33											X							
	IP44									X									
	IP54	X	X	X	X	X		X	X	X	X		X	X					
Appropriate controller	Temperature controller with PSE 5 calendar, signal 0..10VDC			X									X	X		X			
	Temperature controller with PSH3 calendar, signal 230V AC					X													
	Manual controller ZSE 5 – signal setter 0..10VDC			X									X	X		X			

It's worth knowing more...

Number of phases	Single-phase 230V	For 230V single-phase fans
	Three-phase 400V	For 400V three-phase fans
Regulation type	5-level speed regulation	Stepped speed regulation by switching autotransformer windings
	3-level speed regulation	Stepped speed regulation by switching autotransformer windings
	Smooth speed regulation	Smooth speed regulation
Regulation type	Manual speed regulation	Regulation by manual switch or potentiometer
	Speed control by analogue signal	The device has a control input to which 0..10VDC range analogue signal is connected. Signal level defines fan speed.
	Control by 230V AC voltage switching	The device features inputs for connecting 230V voltage. Depending on selection of the input to connect 230V voltage, the regulator changes fan speed.
	Speed control using MODBUS transmission	The regulator features an input to connect instruction transmission in the MODBUS system. Relevant instructions control speed and other functions. The set of instructions is provided by the manufacturer.
Regulation method	Autotransformer speed regulation	Fan speed regulation occurs through various levels of voltage from autotransformer taps.
	Electronic (phase) speed regulation	Fan speed regulation is via a change to the half-period average value owing to the change of the triac ignition angle.
Control inputs	Input for fan engine temperature sensor	The input is connected to a pair of conductors from bimetallic engine temperature sensor. If the sensor opens its contacts due to excessive increase in engine temperature, the regulator will disconnect power supply.
	Input to antifreeze sensor	The input reacts to contact opening. It can be used for connecting an antifreeze sensor. If sensor contacts are opened, the regulator will disconnect engine power supply. Such a use protects fan systems against freezing due to impact of fresh air in winter.
	Possibility of controlling turning on and off by external contacts.	Input responding to contact opening, which can be used for turning fan power supply on and off by remote through regulator settings.
	Input for control signal 0..10VDC	This input can be connected to analogue signal 0..10VDC, which is decisive for fan speed.
	Clock input for day/night switching	Closing or opening of clock contacts allows for switching between two selected speed settings. Usually used for performing the "day/night" function.
Installation	For installation onto DIN rail	Possibility of installation on DIN TH35 rail
	Surface mounting	For surface mounting
	Concealed mounting	Possibility of concealed mounting
	For installation into switchgear	Requires installation into switchgear
Additional functions	In-built room thermostat	The device has an in-built thermostat to measure ambient temperature of the regulator surroundings – the room where it is installed. The thermostat allows for setting temperature values above or below which (depending on heating or cooling mode) fan power supplied is turned in the regulator settings.
	Possibility of setting minimum voltage	In regulators with smooth regulation, it is possible to interfere with factory-set value of minimum output voltage. Owing to this, we can assure safe range of output voltage for the engine, and assure possibly the broadest range of speed regulation.
	Autonomous operation after sending the instructions using MODBUS protocol	Regulator operating in the network with MODBUS transmission, after disconnecting the device sending the instructions, saves the last settings and operates autonomously until a new connection is made and new instructions are sent.
	230VAC output	Output from the regulator with non-regulated 230V value to be used as power supply for other elements in the installation.
	Manual restart after reaction to signals from external sensors	After the regulator has reacted to the closure of input contacts for connecting engine temperature sensor, the regulator requires interference from the operator to restart the fan. This assures the possibility of the operator making sure that restarting the fan is possible.
	Automatic restart after the end of reaction on external sensors	After regulator reaction to closure of input contacts for connecting engine temperature sensors, the regulator returns to normal operation when the input is opened. Usually, in engine temperature sensor function, bimetallic strip is normally closed. When critical temperature is achieved, contacts are opened. When it cools down, the contacts are closed again.
	Day/night	Owing to the input – clock contacts – "CL-CL" to which potential-free relay output of any clock is connected, it is possible to change the speed of any preselected two fan speeds. This usually refers to different settings for day and night. This can, however, be used in any manner, depending on the programming capacity of the external clock.
Protection level	Settings memory	After turning the power off and on again using the switch on the regulator casing, speed settings are preserved.
	IP00	Device without casing
	IP23	Operation in dry areas without severe dusting
	IP33	Operation in dry areas without severe dusting
	IP44	Protection against foreign body particles and water splashes
Appropriate controller	IP54	Operation possible in wet and/or severely dusty areas
	Temperature controller with calendar, 0..10VDC signal type: PSE 5	Room temperature regulator allowing for programming of temperature settings, day, time, and other functions.
	Temperature controller with calendar, 230V AC signal type: PSE 3	Room temperature regulator allowing for programming of temperature settings, day, time, and other functions.
	Manual controller – setter of 0..10VDC signal type: ZSE 5	Using the five-position switch, the controller generates output voltage to allow for manual control of autotransformer regulators with analogue input 0..10VDC.

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