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INDUSTRIAL CONTROL AND DRIVE SYSTEMS



Do Good THINGS





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Custom Design Fan Inverters

INDIA - Automation Systems - Vacuum Toilet - Industrial Control Units SPAIN - CAF Emergency Inverters

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BELGIUM- CMI Static Converter - Battery Charger - Fan Inverters

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UKRAINE - PRINCIPLE ELECTRIC Custom Design Inverter KOREA - HYUNDAIROTEM Emergency Inverters and Control System

CHINA - SIEMENS Static Converter - Speed Circuit Breaker - Braking Resistor

NORWAY Automation Systems - Industrial Control Units

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AC Motor Vector Speed Control Systems





For Those Who Need Maximum Power...

TAY-M Series Mini Series Motor Control Drivers

TAY-Mini inverter series was designed as a solution for motor speed control applications which require compact size, sensorless vector performance and affordable cost of use. With its ultra-compact dimensions, convenient menu structure and programmable input/output functions Tay-M can work in the most challenging conditions.

Specification

With its compact dimensions and high performance in challenging conditions motor speed controllers were designed for Fan, Pump, Conveyor and General Machinery applications. V/F control is of Modbus communication standard.

PID control feature

- 4 Digital Input
- 1 Analogue Input = 0-10 V and 0/4-20 mA
- 1 Relay Output

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			No.
		Marian M	1

	Неа	Installation		
Model	Motor Power KW	Output Set A	150% Load A	Dimensions HxWxD mm.
TAY-1M0.4	0,37	2,2	3,3	132x68x102
TAY-1M0.75	0,75	4,2	6,3	132x68x102
TAY-1M1.5	1,5	6,8	10,2	132x68x102
TAY-1M2.2	2,2	9,6	14,4	142x72x113

* The inputs of our 220 V AC devices are I* 220 V, the outputs are 3* 220 V (three-phase), so the motors should be connected in a triangle.

** Please check the input voltage of the device, as the application of 380 V at the inputs of 220 V AC devices will cause irreparable damage to the device.





TAY-C Series Compact Series Motor Control Drivers

With its compact design TAY-Compact inverter series is suitable for general use and becomes your only solution in special applications with its PID controller and programmable input and output features.

Specification

Multi-purpose compact motor speed controller with advanced protection functions for fan, pump, conveyor and general machinery applications. V/F control is of Modbus communication standard.

PID control feature

- Brake module is standard
- 5 Digital Input
- + 2 Analogue input = 0-10 V and 0/4-20 mA
- 1 Analogue output = 0/4-20 mA
- 1 Relay Output
- Digital Output





Model	Heav Motor Power	Installation Dimensions HxWxD		
	KW	A	A	mm.
TAY-1C0.4	0,37	2,2	3,3	142x85x113
TAY-1C0.75	0,75	4,2	6,3	142x85x113
TAY-1C1.5	1,5	6,8	10,2	142x85x113
TAY-1C2.2	2,2	9,6	14,4	151x100x113

	Heavy	Installation		
Model	Motor Power KW	Output Set A	150% Load A	Dimensions HxWxD mm.
TAY-3C0.4	0,37	1,2	1,8	151x100x113
TAY-3C0.75	0,75	2,2	3,3	151x100x113
TAY-3C1.5	1,5	3,7	5,6	183x100x138
TAY-3C2.2	2,2	5,3	8	183x100x138
TAY-3C3.0	3	7,9	10,8	183x100x138
TAY-3C4.0	4	9	13,7	183x100x138
TAY-3C5.5	5,5	12	18	183x100x138
TAY-3C7.5	7,5	15,5	23,5	260x130x178
TAY-3C11	11	23	34,5	260x130x178
TAY-3C15	15	31	46,5	280x195x178
TAY-3C18.5	18	37	55,5	280x195x178
TAY-3C22	22	43	64,5	280x195x178

A portable control panel is supplied with our device with no additional charge.

** The inputs of our 220 V AC devices are 1 *220 V, the outputs are 3*220 V (three-phase), so the motors should be connected in a triangle.

*** Please check the input voltage of the device, as the application of 380 V at the inputs of 220 V AC devices will cause irreparable damage to the device.

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SOURCE: TAY-C Device Technical Information Page 52





TAY-H Series HVAC Series AC Vector Control Drivers

TAY-H inverter series was designed based on our experience dating back to year 1994 and can meet any of your expectations related to motor inverters. With its high reliability and cost-effectiveness in application areas it offers an optimized solution for the needs of heating, cooling and compressor industries.



ALTA?

- Motor speed controller parameters implemented for all types of HVAC, fan and compressor applications.
- Close & open loop vector, VVVF, PMSM control
- Standard RS-485, ModBus, Canbus
- PID (speed, Process)
- Catching the rotating motor
- Belt broken warning
- Fire and Emergency MODE
- Realtime clock with 256 event record
- 4*20 Active-Matrix Liquid Crystal Display with multiple language options
- Operation without any voltage drop at up to 40 degree celcius 14 Digital input
- 3 Analogue output = 0/4-20 mA
- 2 Analogue output = 0/4-20 mA
- 4 Relay output

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	Performance Parameters		Installation	
Model	Motor Power KW	110% Output Current A	Dimensions HxWxD mm.	Connection Ød
TAYH-1/,75	0,75	2,4	147x73x123	
TAYH-1/1,5	1,5	4,1	147x73x123	
TAYH-3/2,2	2,2	5,6	232x104x164	N44
TAYH-3/3,0	3	7,2	232x104x164	1014
TAYH-3/4,0	4	10	232x104x164	
TAYH-3/5,5	5,5	13	232x104x164	
TAYH-3/7,5	7,5	16	297x168x169	
TAYH-3/11	11	24	297x168x169	
TAYH-3/15	15	32	410x220x240	M5
TAYH-3/18,5	18,5	37,5	410x220x240	
TAYH-3/22	22	44	410x220x240	
TAYH-3/30	30	61	551x280x237	
TAYH-3/37	37	73	551x280x300	
TAYH-3/45	45	90	691x280x300	M6
TAYH-3/55	55	106	691x280x300	
TAYH-3/75	75	147	831x280x300	
TAYH-3/90	90	177	970x280x336	M8

SOURCE: TAY-H Device Technical Information Page 52

Control your speed with MEDEL!



TAY-Q Series Water Series AC Vector Control Drivers

TAY-Q inverter series was designed based on our experience dating back to year 1994 and can meet any of your expectations related to motor inverters. With its high reliability and cost-effectiveness, it offers an optimized solution for water and waste water pumps.





Specification

Motor speed controller designed for all kinds of water and waste water applications.

- Close & open loop vector, VVVF, PMSM control
- Standard RS-485, ModBus
- PID (Speed, Process)
- Catching the rotating motor
- Dry pump
- 1+2 sequence work mode, equal aging
- · Standard real time clock with last 256 fault record
- · 4*20 Active-Matrix Liquid Crystal Display with multiple language options
- Operation without any voltage drop at up to 40 C
- 14 Digital Input
- 8 Analogue Output = 0/4-20 mA
- 2 Analogue Output = 0/4-20 mA
- 4 Relay output

AC Motor Vector **Speed Control** Systems

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High Performance in Challenging Conditions

	Performanc	e Parameters	Installation	
Model	Motor Power KW	110% Output Current A	Dimensions HxWxD mm.	Connection Ød
TAYQ-1/,75	0,75	2,4	147x73x123	
TAYQ-1/1,5	1,5	4,1	147x73x123	
TAYQ-3/2,2	2,2	5,6	232x104x164	MA
TAYQ-3/3,0	3	7,2	232x104x164	1014
TAYQ-3/4,0	4	10	232x104x164	
TAYQ-3/5,5	5,5	13	232x104x164	
TAYQ-3/7,5	7,5	16	297x168x169	
TAYQ-3/11	11	24	297x168x169	
TAYQ-3/15	15	32	410x220x240	M5
TAYQ-3/18,5	18,5	37,5	410x220x240	
TAYQ-3/22	22	44	410x220x240	
TAYQ-3/30	30	61	551x280x237	
TAYQ-3/37	37	73	551x280x300	
TAYQ-3/45	45	90	691x280x300	M6
TAYQ-3/55	55	106	691x280x300]
TAYQ-3/75	75	147	831x280x300	
TAYQ-3/90	90	177	970x280x336	M8







3 phase 380 V-5,5 kW

LIAN

TAY-S Series

Super Series AC Vector and Torque Control Drives

TAY-S inverter series was designed based on our experience dating back to year 1994 and can meet any of your expectations related to motor inverters.

TAY-S can work in the most challenging conditions without sacrificing its superior performance.



Specification

Especially designed for all kinds of industrial machinery, cranes, extuders, crushers, mixers and heavy-duty applications.

- · Close & open loop vector, VVVF, PMSM control
- Standard RS-485, ModBus
- PID (Speed, Process)
- Standard brake module
- Standard encoder card
- Standard real time clock with last 256 fault record
- 4* 20 Active-Matrix Liquid Crystal Display with multiple language options
- Operation without any voltage drop at up to 40 C
- 14 Digital Input
- 8 Analogue Input 0-1 OV and 0/4-20 mA
- 1 Analogue Output = 0/4-20 mA
- 4 Relay output

AC Motor Vector **Speed Control** Systems

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Precise Control in Challenging Conditions!

		Power Values			
Model	Motor Power KW	110% Output Current A	160% Load A	Installation Dimensions	Connection Ød
TAYS-1/,75	0,75	2,4	3,84	147x73x123	
TAYS-1/1,5	1,5	4,1	6,56	147x73x123	
TAYS-3/2,2	2,2	5,6	8,96	232x104x164	
TAYS-3/3,0	3	7,2	11,52	232x104x164	IVI4
TAYS-3/4,0	4	10	16	232x104x164	
TAYS-3/5,5	5,5	13	20,8	232x104x164	
TAYS-3/7,5	7,5	16	25,6	297x168x169	
TAYS-3/11	11	24	38,5	297x168x169	
TAYS-3/15	15	32	51,2	410x220x240	M5
TAYS-3/18,5	18,5	37,5	60	410x220x240	
TAYS-3/22	22	44	70,4	410x220x240	
TAYS-3/30	30	61	91,5	551x280x237	
TAYS-3/37	37	73	110	551x280x300	
TAYS-3/45	45	90	135	691x280x300	M6
TAYS-3/55	55	106	159	691x280x300	
TAYS-3/75	75	147	221	831x280x300	
TAYS-3/90	90	177	266	970x280x336	
TAYS-3/110	110	212	318	970x280x336	
TAYS-3/132	132	260	390	970x280x336	M8
TAYS-3/160	160	315	473	1310x400x323	
TAYS-3/200	200	395	592,5	1310x400x323	







Elevator Inverters



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TAY 42-11 KW 3 PHASE

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	Heavy Duty	Usage Values	Installation	
Model	Motor Power KW	Output Set A	utput Set Dimensions A HxWxD Mm.	
TAY-LIFT-5.5-14	5,5	14	232x104x164	
TAY-LIFT-7.5-18	7,5	18	297x168x169	
TAY-LIFT-11-23	11	23	297x168x169	M5
TAY-LIFT-15-33	15	33	410x220x240	
TAY-LIFT-22-50	22	50	410x220x240	

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GENERAL PRODUCT CATALOGUE

Specification

A control device designed especially for elevator industry.

- User-friendly Turkish and English optional interface
- 4*20 LCD display
- Parametric and adjustable travel ramp
- Parametric delay ramp function
- Brake and Motor Contactor Monitoring with variable time gap and independently
- Asynchronous and Synchronous motor option with open & close loop vector control
- High energy efficiency
- · Adjustable motor control parameters for comfortable travel curve at tough mechanical conditions
- · Upload and move inverter parameters to other units by remote panel
- · Emergency evacuation with UPS
- 14 adjustable digital inputs
- Motor speed control with 0-10 vdc and 4-20 mA input
- 0-10 vdc cabinet weight control for more precised and comfortable travel curve.
- Precise motion control against unwanted movements
- Optional encoder output with EnDat, BISS, Line drive and Push-Pull encoder option
- Supporting Profibus, Canopen and Modbus communication profiles
- Dynamic and Static motor startup function





TAY-P Series

Pump Inverters

MEDEL Tay-P series inverter family is designed in an integrated and high protection class that can be used in smart applications. Thanks to its ease of mounting directly on the motor and its IP65 design, it can be easily applied directly on all brands of motors in any environment. Different types of sensors can be connected to Tay-P series inverter. The system has a quiet, easy-to-use menu structure and unmatched performance. By communicating with more than one pump with RS485 communication support, it can act as a backup or main pump in multi-pump applications.

Specification

- Control Method : Vector Control
- Power
- : 0,37kW...18,5kW : Mod Bus
- Communication • Pump Feature
 - : Controls up to 6 pumbs Frost protection
- Assembly
- Protection Class : IP65 & card coating
 - : Coupling with adapter plate on the motor



	Heav	Installation			
Model	Motor Power KW	Output Set A	Protection Class	Dimensions HxWxD mm.	
TAY-3C0.4	0,37	1,2	IP65	151x100x113	
TAY-3C0.75	0,75	2,2	IP65	151x100x113	
TAY-3C1.5	1,5	3,7	IP65	183x100x138	
TAY-3C2.2	2,2	5,3	IP65	183x100x138	
TAY-3C3.0	3	7,2	IP65	183x100x138	
TAY-3C4.0	4	9	IP65	183x100x138	
TAY-3C5.5	5,5	12	IP65	183x100x138	
TAY-3C7.5	7,5	15,5	IP65	260x130x178	
TAY-3C11	11	23	IP65	260x130x178	
TAY-3C15	15	31	IP65	280x195x178	
TAY-3C18.5	18,5	37	IP65	280x195x178	
*TAY-P device's powerstpplyshouldbefree-phæse.					

Medel Pump Inverters

TAY-P Mini Series Pump Inverters

The products of Tay-P mini series are designed as an integrated drive which controls the water supply of low power single-phase pumps with constant pressure. Tay-P mini series pump drive, designed in compact and small dimensions, can be used without being affected by dusty and watery environments due to the advantages of IP65 protection class.

Specification

- Control Method : V/F Scaler control
- Power : 0,75kW...2,2kW (220v)
- Communication : Mod Bus
- Pump Feature : Sleep Mode
 - Frost protection
- Protection Class : IP65 & cart coating
- Assembly : Coupling with adapter plate on the motor



	Heavy	Installation					
Model	Motor Power KW	Output Set A	Protection Class	Dimensions HxWxD mm.			
TAY-1Pmini2T0K37	0,37	2,2	IP65	138x114x176			
TAY-1Pmini2T0K75	0,75	4,2	IP65	138x114x176			
TAY-1Pmini2T1K1	1,1	4,9	IP65	138x114x176			
TAY-1Pmini2T1K5	1,5	6,8	IP65	138x114x176			
TAY-1Pmini2T2K2	2,2	9,6	IP65	138x114x176			
	*TAY-P device's power supply should be single-phase						



TAY-S/Cr Series

Crane Series AC Vector and Torque Control Drives

TAY-S/Cr inverter series was designed in order to meet any possible expectations regarding motor inverters. With its high reliability and cost-effectiveness it offers an optimized solution for all crane types and requirements of different application areas.





Specification

Designed especially for all kinds of industrial cranes and heavy duty applications.

- Close & open loop vector, VVVF, PMSM control
- Standard RS-485, ModBus
- PID (Process)
- Standard brake module
- Standard encoder card
- Optional EnDat encoder module
- 200 % loadability during 3 seconds
- Standard real time clock with last 256 fault record
- 4*20 Active-Matrix Liquid Crystal Display with multiple language options
- Operation without any voltage drop at up to 40 C
- 4 Digital Input
- 3 Analogue Input = 0-10 V and 0/4-20 mA
- 1 Analogue Output = 0/4-20 mA
- 4 Relay output

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Lighten Your weight MEDEL

SAFETY FIR

	Perfo	ormance parame	ters			
Model	Motor Power KW	110% Çıkış Akımı A	160% Load A	Installation Dimensions HxWxD mm.	Connection Ød	
TAYS/Cr-1/,75	0,75	2,4	3,84	147x73x123		
TAYS/Cr-1/1,5	1,5	4,1	6,56	147x73x123		
TAYS/Cr-3/2,2	2,2	5,6	8,96	232x104x164	N/A	
TAYS/Cr-3/3,0	3	7,2	11,52	232x104x164	1014	
TAYS/Cr-3/4,0	4	10	16	232x104x164		
TAYS/Cr-3/5,5	5,5	13	20,8	232x104x164		
TAYS/Cr-3/7,5	7,5	16	25,6	297x168x169		
TAYS/Cr-3/11	11	24	38,5	297x168x169		
TAYS/Cr-3/15	15	32	51,2	410x220x240	M5	
TAYS/Cr-3/18,5	18,5	37,5	60	410x220x240		
TAYS/Cr-3/22	22	44	70,4	410x220x240		
TAYS/Cr-3/30	30	61	91,5	551x280x237		
TAYS/Cr-3/37	37	73	110	551x280x300		
TAYS/Cr-3/45	45	90	135	691x280x300	M6	
TAYS/Cr-3/55	55	106	159	691x280x300		
TAYS/Cr-3/75	75	147	221	831x280x300		

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GENERAL PRODUCT CATALOGUE

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DC Motor Speed Control Systems

Medel Elektronik produces DC Motor Speed Control Systems between 1 kW and 2500 kW. Our DC Motor drivers are designed for shunt motors. DC drivers can be manufactured according to the compound or serial motor characteristics upon request.

Reduce motor temperature and thyristor noise by zero voltage crossing switch technique. Alarms "drive ready", "drive start", "motor warning", "mains phase cut" and "overcurrent in the motor" can be monitored on the numericaldisplay. A shipowner can work with voltage with any of 2 different feedback methods, with or without a tachogenerator. By using control inputs, motor start/stop, 0...10 V analog speed control, analog motor current, increase motor speed or decrease motor speed process can be managed.







For Those Who Need Maximum Power



	Pe	erformance param	Installation	Connection Ød	
Model	Supply voltage	Drive Power	DriveOutputDimensionsPowerVoltagemm.		
MD-01	220 VAC 1FAZ, Nötr	1-4 HP	0200V DC	445x276x170	M5
MD-02	380 VAC 2FAZ, Nötr	5,5-10 HP	0280V DC	225x175x142	
MD-03	380 VAC 3FAZ, Nötr	50-75 HP	0400V DC	264x240x178	M6
MD-04	380 VAC 3FAZ, Nötr	10-3000 HP	0400V DC	TBD	

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MEDEL's electronic boards are produced with the highest technology and world standards...





Electronic Presure Cards



Electronic Pressure Cards are used in cable industry, textile industry, plastic machinery, film machinery, sheet metal industry, wire drawing industry etc. In order to provide unwind-wrapped or synchronization between two motors, the tanzer monitors the line speed from the reference pot and ensures that the systems are synchronized with each other

Specification

- Microprocessor Controlled
- 24 V DC Supply
- PID Controller
- Tension Reference Input
- Analogue Speed Input
- Analogue Speed Output
- Tension Up-Down Limit Contact
- Selectable DIP Switch Function



Electronic Potentiometer Board

Electronic Potentiometer board detects digital signals fro machine and after isolation of received signal, transmit analog data to main controller unit.

Specification

- Microprocessor Controlled
- 12 bit Analogue Output
- Adjustable Acceleration Ramp
- Adjustable Deceleration Ramp
- Adjustable Minimum Output
- Reset Function



Tension Control Systems

Application areas

- Printing Machines (Intaglio-Lamination-Flexo-Slicing)
- Plastic Machinery (Extruders)
- Paper Machinery



The tension control system we have developed for winding/unwinding applications ensures precise and uninterrupted movement of product during every cycle with the help of closed-loop PID controller. A microprocessor allows it to control constantly the mechanical tension of the material wound on a roller or a reel. It ensures the material's proper flow inside the machine and accurate wrapping and unloading during processing.

System used with Windig, Unwinding, motor powered unwinding, motor powered winding systems to keep tension of the web constand at different speed and process conditions. In this way, it is ensured that the quality of the work done in the machine is increased and waste events are reduced.

Specification

- Microprocessor Controlled
- PID Controller
- 4*20 LCD Display
- 24 V DC supply
- Analogue 0-10 V Output
- 24 V DC Brake Output
- External Start Input
- 0-10 V Analogue Input
- Load Cell Input

Application Scheme



Winding System







Accurate Winding and Unwinding Operations are Very Easy with MEDEL...



Tension Control Systems

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Load Cells

Medel load cells are used in tension control systems for the automation of such applications like winding and unwinding. They are connected to the roller through which the material flows in the direction in which the material exerts force. From that point accurate and proper measurement can be made effectively.





Magnetic Powder Brake

Brake Models

- 10 NM • 25 NM
- 50 NM
- 100 NM • 200 NM
- 400 NM



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Edge Control Systems



By on the it t racks the edge of the product which [s being wound or unwound and cut or vertically, In this way, winding fault being corrected and the product flows at same edge line level with the Due to its ease of and adaptation it saves time for machine operators and the production quality during operation.



Linear Actuators



Stepper motor powered linear actuators are mechanically maintenance free. High precision screw and nut with ball bearing provide planetary movement during the operation.

Ultrasonic Sensors



For the ultrasonic side sensor the ultrasonic noise sensor is used in this kind of automation applications because the light perme- ability is high in the products such as plastic film, foil, paper and transparent slide etc. products. The sensor perception distance is +10/-10 mm.

Infrared Sensors



Infrared edge are used for accurate detection of breathable and sound-transmitting materials like buckram. felt. fabric. textile etc. The sensor-to-sensor distance is +10/-10 mm.

Line Tracking Sensors



Line tracking sensor is used when it is necessary to control the product's follow line in the equipment processing such materials as film and foil.



Edge Control and Guiding Mechanisms



Guiding mechanisms change the input direction of the material in the machine and ensure that the product stays at the same edge level or is corrected according to the machine or to the type of work being done. It ensures that the material unwound in the unwinding systems flows properly at the same point. It ensures proper winding of the material wound in the winding systems. It makes it possible to keep the materials in one or more winding / unwinding machines at the same edge level or to laminate and combine them.

It provides proper and controlled coating of the material in the coating machines. The edge control and guiding mechanism makes the production process smooth, high quality and efficient.



THE PRODUCTIONS IS POSSIBLE ON ALL DESIRED SIZES AND DIMENSIONS.

Application Areas

- Textile Machinery
- Plastic Film Machinery
- Paper Machinery
- Printing Machines (Intaglio-Lamination-FlexoSlicing)
- Coating Machines (PVC profile panel)





Camera Control Systems

Camera control system is used for easy monitoring of the printing process on the printing machines by the operator. Camera control system is synchronized with the printing machine by means of an encoder or proxy switch connected to the printing die.

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Camera control system continuously takes images from the machine with which it is synchronized and displays them one after another on the monitor. It allows the operator to track the flowing product via the incoming images on the monitor and to work with better quality and accuracy.

The Adjustment Points On The Camera Are Listed Below

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- 1 Zoom (zoom in / zoom out)
- 2 Light (Adjusts the light intensity of the image according to the material's glossiness)
- 3 Focus (sets the focus of the image)
- 4 Adjusting the image to any point up or down
- 5 Mechanical positioning of the image to the right or left
- 6 Saving the received images
- 7 5 Mega Pixels high resolution image quality

Your Job Is Easier With High Speed Imaging!



User-friendly and practical control panel







COLOR PHOTOCELL

Register Control Systems

With the help of photocells it is ensured that the prints made in intaglio printing machines are monitored and always stay at the same point. A photocell takes the primary color in printing as the basic one and keeps other colors on top of the first color with the help of up-down adjustment engines. It ensures that the right-left sliding is always fixed with the help of right-left motors. The system continuously monitors from line to line and the primary color, in this way achieving high precision printing. Working accuracy is 0.01 mm.





Color Reference Chart







Motor Test Systems

With the help of our test system you can implement performance tests of AC/DC motor speed controllers, ACIDC motors (Traction motors) and mechanical parts (reducers, etc.).

Test Sistemi Ar-Ge Çalışmalarımızda

It is used for monitoring and recording the results of the software and hardware modifications we make in our inverters, the performances of different brands and types of motors.



Test System

Visualizes, measures and stores:

• The accuracy, linearity and response times of torque and speed values resulting from the software and hardware modifications we make in our inverters

• Instant and continuous values of the inverter and motor temperatures

Motor efficiency and power factor values.t



Specification

Measuring, calculating and visualizing such physical values as Torque, Mechanical Power, Rotation Speed, Efficiency, Sliding, Voltage, Current, Power Factor, Apparent Power, Active Power, Reactive Power, Temperature, Vibration, Noise.

Current Measurement Range	: 0-500 A ±%0.5
Torque Measurement Range	: 0-1000 Nm ±%0.5 (max. 2500Nm)
Rotation Speed Measurement Range	: 0-4800 rpm ±%0.5
Temperature Measurement Range	: between -50°Cand + 150°C ±%0.5 in 7 different points
Communication	: RS 485-Modbus (Option: Profibus)
Language	: English, Turkish

- · Measurement and recording with pre-set value and time
- 24 hours of measurement and recording time, 5 measurements per second for each physical value
- Test operator can carry out tests in a comfortable and reliable way due to the customized design of the operator's desk
- Saving the test report in ".pdf' or ".xls" format
- Comparing the test results with the pre-set criteria and indicating the result automatically
- Monitoring information about the status of the system components (start, stop, fault, limit, communication...)
- Possibility to reload the saved tests to the test program and repeat the missed tests or any test.
- Possibility to monitor the values of the variables in the tests as diagrams/curves during or after the test.





42-43



TAY-BAT Series

Battery Charging and Discharging Systems

TAY -BAT battery charging and discharging systems are highly efficient and suitable for battery types used in transportation, defense industry and many different fields. Our battery charging units are designed with the state-of-theart technology and have modular compact structure in accordance with the

working conditions of on-board, outdoor and indoor environments. With the help of our charging and discharging systems different types of batteries can be used together at the same time on a production line.



Specifications

- · Suitable for all battery types according to industrial, transportation and military standards
- · Power generation within the range between 3 kW and I MW
- Suitable for 220 VAC and 380 VAC input voltages
- · Casing with water-cooling and/or air-cooling
- Galvanic isolation between the Biwer grid and the battery
- Create independently charge and discharge time schedule for differen type of batteries
- · Canbus, Modbus and Ethernet communication solutions
- · Indoor, outdoor and temperature controlled operation of the battery
- Input undervoltage, input overvoltage, overcurrent, output short circuit and reverse connection protection Charge output efficiency > 93%
- PFC > 0.95 at full load
- · Easy installation and commissioning



Power Systems

www.medelelektronik.com

MEDEL's Stores Its Power In Battery





Biomass Renewable Energy Source

Biomass is a renewable energy source in the form of solid plant matter which usually consists of wastes of agriculture, forestry, paper and food industry etc.

MEDEL implements turnkey power plant installation with its own automation systems in partnerships with trusted European engineering firms and manufacturers of biomass combustion plants for heat and power generation.

We work together with our European partners who are experts in the field of design and production of critical equipment for direct combustion systems.

MEDEL specializes in project management for biomass power plant projects and offers its customers state-of-the-art technology, competitive business solutions and reliable after sales educational and technical services.

Our Services

- Project development
- License planning
- Facility installation
- Fuel anatysis
- Chimney Installation
- Filtration system design
- Fitter production
- Procurement and logistics
- Operation / installation
- Commissioning and performance test
- After sales service and maintenarce of the facility
- Technical and commercial management



8

Domestic Waste

BORNEY STATISTICS



Clean Energy is Possible with Us...

Electricity prices have been increasing within recent years and this has become a grave factor affecting the profits of businesses day by day.

As a solution to this problem, MEDEL Elektronik offers turnkey solar energy systems. Photovoltaic plants convert sunlight into electric power. They canbe installed on roofs or in open areas with the help of special fixing and installation systems.

The electric power produced with this equipment cant be used by its owners, and excess power can be sold to the grid at competitive prices.

Solar Power Systems **Solar Inverter Systems**



MEDEL TAY-PV SOLAR INVERTERS

Benefits

Optimized Dual ve tripple MPPT

- MPPT efficiency is more than 99.5%
- Maximum efficiency is 98%, and 97.6% according to European standards
- Compatible with all solar panel connection types within wide operating voltage range between 150 V and 1000 V
- · Compact dimensions and low weight due to transformerless design
- · Fast connection due to the connector design which used in AC connections
- · Fast and easy installation with special mounting apparatus.

Functions

- Security settings controlled by one button, parameter setting with easy configuration
- 25 years of data storage with built-in real-time controller
- Daily/monthly/yearly data monitoring with built-in LCD graphic display
- · Improved communication option with built-in RS232/Wi-fi interface
- · Built-in data tracking option, anywhere anytime
- · Local or remote control with Android, IOS or PC

Safety and Sustainability

- Easy indoor and outdoor installation due to IP65 protection class
- Long durability, efficient heat rejection and high corrosion protection due to aluminum casing design
- · Safe maintenance and application with built-in DC switch
- Long-lasting performance with natural cooling



Video Parking Guidance System (VPGS)

VPGS helps drivers find the most suitable parking lot in a closed parking area as soon as possible









Specification

- Ultrasonic sensors for reliable vacant space detection
- Dual color vacant space indicators with visibility up to 100 meters
- Wide colored arrows for perfect orientation
- · Easy installation on standard cable trays with minimum changes and wiring
- The lowest material and installation cost

Benefits

- · Less time consumption for finding vacant parking spaces
- Less noise pollution
- Less fuel consumption + less air pollution
- · Avoiding long queues in the parking area by smart management of all available parking spaces
- · The optimization of parking lots and entire parking floors with the help of V PGS
- · No need for additional personnel for traffic control
- · Real-time monitoring of the entire parking area via a PC
- · Possibility to work without a PC
- Integration with the building's existing automation systems via PC

50-51



Crane Motor Drivers and Automation System

MEDEL ELEKTRONIK manufactures motor drives and automation system for all types of cranes used in all kind of crane applications.

Typical applications include any material handling equipment that can be installed on commercial and naval vessels,tugboats, supply/support vessels, factories and shipyards.

All crane automation system is produced in accordance with the latest rules and regulations of the classification societies and uponrequest our products can be delivered to the customer with a special certificate from member organizations of theInternational Association of Classification Societies (IACS).

MEDEL automation systems are used during the modernization of cranes at shipyards and docks.

Our Services

- Crane designCrane modernization
- Crane production
- Crane commissioning
- Crane load analysis
- Crane load test



Crane Control Systems

www.**medelelektronik**.com



52-53



Marine

Vessel Automation and Power Supply Systems

MEDEL ELEKTRONiK has been successfully engaged in Marine Industry since year 2000. Within one platform we offer such services as concept and configuration design of vessels' electrical and electronic systems, installation of such systems, project management and consulting, panel and console production, design and production of special military systems, carrying out system tests and commissioning, maintenance and repair activities.

Design and Engineering:

System design for newly constructed and modernized vessels.

System Production:

Design and production of all main boards, power distribution boards, power distribution units and consoles. **System Supply:**

Supply of power systems, lighting systems and cable systems.

Laying Cable, Cable Termination and Integration:

Our experienced team of engineers offers the best cable equipment workmanship and termination practices in accordance with the standards of International Association of Classification Societies and IPC.

Quality Control: Meeting the expectations of our customers with our experienced quality control team from the Design stage to Acceptance Tests in the Port.

Devices manufactured by MEDEL:

- Vessel Power Distribution System
- Battery Charger
- Captain Control Systems
- Pump Controller
- Lifeboat Launch





Vessel Automation and Energy Supply Systems

www.medelelektronik.com



Vector Motor Control System



Control and Automation Systems

AURITALIA

Power Distribution, Energy Supply and Battery Charger Units





1

Control and Command System



Project Automation Processing Facility Installation Services

With its highly qualified staff MEDEL renders seamless services in the field of processing plants installation, including project design, turnkey factory installation, installation of separate units, modules and customized filling machines.

- Turnkey plant installation
- · Enhancing the capacity / production parameters of the existing plants
- · Improvement renewal support of manufacturing processes
- Ensuring the company's product variety
- Information about geographical condition
- Performing material cost analysis
- · Installation of cement, petrochemical and raw material production facilities
- Fertilizer and paper factory installation

Recently MEDEL has been giving more priority to turnkey installation of paper mills and construction chemicals factories in Turkey.

During processing plant/factory installation our qualified engineers provide the customer's staff with all necessary training, take measures for preventing all possible problems in future, carry out all required tests all the way from raw material to the end-product.



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Project Automation

www.medelelektronik.com

MEDEL solves the whole scope of large systems' control and command in the areas requiring processing control, such as:

- Paper mills
- Facilities manufacturing textile products
- Iron and steel production and processing facilities
- Plastic raw material and packaging facilities

Since we can integrate equipment with the control and command systems of our own production, the customer is provided with the most appropriate and optimum solutions.

Meeting the demands of production facilities:

- Modernization of automation and mechanical systems
 Planning and implementation of machinery / factory
- moving and commissioning
- Electrical and mechanical project development
- Installation and commissionning of machinery automation and mechanical systems for second hand or new equipment
- Technical engineering and support service.

Satisfying the needs of companies carrying out machinery design and development:

• Automation system, electrical and software project development, implementation and commissioning.

Automation system installation service for overseas projects

• Technical and automation engineering service specific to different machinery models and types







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Dear MEDEL's Customer

First of all, we would like to thank you foryour interest in the products we manufacture. MEDEL ELEKTRONIK is the first and only company in Turkey which has been massproducing AC and DC speed control devices since 1994

In this catalogue you can find the summary information that will:help you benefit maximally from the advanced technology products we manufacture for you.

For more detailed technical information please visit our web-site www.medelelektronikcom.tr or contact our sales representatives.

We wish your business to be profitable, trouble-free and successful with MEDEL's products!

Selection Criteria For Motor Speed Controllers

Selection Motor controllers not only make industrial life easier, but also provide significant energysaving which is made possible by choosing the right motor controller and the adjusting its parameters properly.

Contrary to a popular belief, the first and perhaps the most important selection criterion of motor controllers should be current, not power. If the selection is made according to the load current, future overcurrent and related problems will be prevented.

Speed The second selection criterion is that the device is produced with specifications suitable for your application.

The third selection criterion is the short-term overload capability of the device.

Standard industrial motor speed controller can withstand 150% load (in constant torque applications) for 1 minute every 5 minitus. In variable torque applications such as fans and pumps, this value is 110%

All of these standards are provided in the speed controllers we produce as Mede, and in addition to these, there is a 200% loadability for 3 seconds every 1 minute.

A Company with Traditions...



The fourth selection criterion is the length of the cable between the motor and the drive. Due to the capacitive effect of the motor cables, the motor exerts a capacitive load in addition to the output of the speed controller.

Please inform your sales representatives about the length of the motor cable in your project.

About the weet the above mentioned criteria.

Sometimes only the rotation of the motor shaft is not enough.

Guarantee

For every motor speed controller you purchase Medel provides warranty for 24 months period from the invoice date for the workmanship and/or faults of the components used in the manufacturing process.

The defect ratio in the devices we produce is extremely low due to our intense quality assurance policy. Every product that comes out of our production line is shipped to our esteemed customers after the overload tests at a temperature of 450°C are completed.

For more detailed information about warranty conditions, please visit our website www.medelelektronik.com.tr

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TAY-M Technical Information				
Model Code	Input Voltage	Power	Fuse	Cable cross section
TAY - 1M0,4	1FAZ 220V	0,37 kw	10	0,75 mm ²
TAY - 1M0,75	1FAZ 220V	0,75 kw	16	0,75 mm ²
TAY - 1M1,5	1FAZ 220V	1,5 kw	25	1,5 mm ²
TAY - 1M2,2	1FAZ 220V	2,2 kw	32	2,5 mm ²

TAY-C Technical Information					
Model Code	Input Voltage	Power	Fuse	Cable cross section	
TAY-1 C0,4	1FAZ 220V	0,37 kw	10	0,75 mm ²	
TAY-1 C0,75	1FAZ 220V	0,75 kw	16	0,75 mm ²	
TAY-1 C1,5	1FAZ 220V	1,5 kw	25	1,5 mm ²	
TAY-1 C2,2	1FAZ 220V	2,2 kw	32	2,5 mm ²	
TAY-3 C0,4	3FAZ 380V	0,37 kw	6	0,75 mm ²	
TAY-3 C0,75	3FAZ 380V	0,75 kw	6	0,75 mm ²	
TAY-3 C01,5	3FAZ 380V	1,5 kw	10	0,75 mm ²	
TAY-3 C02,2	3FAZ 380V	2,2 kw	10	0,75 mm ²	
TAY-3 C3	3FAZ 380V	3 kw	16	1,5 mm ²	
TAY-3 C4	3FAZ 380V	4 kw	16	1,5 mm ²	
TAY-3 C5,5	3FAZ 380V	5,5 kw	20	2,5 mm ²	
TAY-3 C7,5	3FAZ 380V	7,5 kw	32	4 mm ²	
TAY-3 C11	3FAZ 380V	11 kw	40	4 mm ²	
TAY-3 C15	3FAZ 380V	15 kw	50	6 mm ²	
TAY-3 C18,5	3FAZ 380V	18,5 kw	50	10 mm ²	
TAY-3 C22	3FAZ 380V	22 kw	63	10 mm ²	

	TAY-P Tec	hnical Info	rmation	
Model Code	Input Voltage	Power	Fuse	Cable cross section
TAY303P2K2	3FAZ 380V	2,2 kw	16	2,5 mm ²
TAY303P3K0	3FAZ 380V	3 kw	16	4 mm ²
TAY303P4K0	3FAZ 380V	4 kw	20	4 mm ²
TAY323P5K5	3FAZ 380V	5,5 kw	25	4 mm ²
TAY423P7K5	3FAZ 380V	7,5 kw	32	6 mm ²
TAY423P11K0	3FAZ 380V	11 kw	50	6 mm ²
TAY523P15K0	3FAZ 380V	15 kw	63	10 mm ²
TAY523P15K5	3FAZ 380V	18,5 kw	80	10 mm ²
TAY523P22K0	3FAZ 380V	22 kw	80	16 mm ²
TAY623P30K0	3FAZ 380V	30 kw	125	25 mm ²
TAY623P37K0	3FAZ 380V	37 kw	160	25 mm ²
TAY623P45K0	3FAZ 380V	45 kw	160	35 mm ²
TAY623P55K0	3FAZ 380V	55 kw	200	35 mm ²
TAY623P75K0	3FAZ 380V	75 kw	250	50 mm ²
TAY623P90K0	3FAZ 380V	90 kw	315	70 mm ²
TAY623P110K0	3FAZ 380V	110 kw	400	70 mm ²
TAY623P132K0	3FAZ 380V	132 kw	600	120 mm ²
TAY623P160K0	3FAZ 380V	160 kw	600	120 mm ²
TAY623P200K0	3FAZ 380V	200 kw	600	150 mm ²

TAY-Q Technical Data					
Model Code	Input Voltage	Power	Fuse	Cable cross section	
TAY303P2K2	3FAZ 380V	2,2 kw	16	2,5 mm ²	
TAY303P3K0	3FAZ 380V	3 kw	16	4 mm ²	
TAY303P4K0	3FAZ 380V	4 kw	20	4 mm ²	
TAY323P5K5	3FAZ 380V	5,5 kw	25	4 mm ²	
TAY423P7K5	3FAZ 380V	7,5 kw	32	6 mm ²	
TAY423P11K0	3FAZ 380V	11 kw	50	6 mm ²	
TAY523P15K0	3FAZ 380V	15 kw	63	10 mm ²	
TAY523P15K5	3FAZ 380V	18,5 kw	80	10 mm ²	
TAY523P22K0	3FAZ 380V	22 kw	80	16 mm ²	
TAY623P30K0	3FAZ 380V	30 kw	125	25 mm ²	
TAY623P37K0	3FAZ 380V	37 kw	160	25 mm ²	
TAY623P45K0	3FAZ 380V	45 kw	160	35 mm ²	
TAY623P55K0	3FAZ 380V	55 kw	200	35 mm ²	
TAY623P75K0	3FAZ 380V	75 kw	250	50 mm ²	
TAY623P90K0	3FAZ 380V	90 kw	315	70 mm ²	
TAY623P110K0	3FAZ 380V	110 kw	400	70 mm ²	
TAY623P132K0	3FAZ 380V	132 kw	600	120 mm ²	
TAY623P160K0	3FAZ 380V	160 kw	600	120 mm ²	
TAY623P200K0	3FAZ 380V	200 kw	600	150 mm ²	

	TAY-S	Technical D	Data	
Model Code	Input Voltage	Power	Fuse	Cable cross section
TAY303P2K2	3FAZ 380V	2,2 kw	16	2,5 mm ²
TAY303P3K0	3FAZ 380V	3 kw	16	4 mm ²
TAY303P4K0	3FAZ 380V	4 kw	20	4 mm ²
TAY323P5K5	3FAZ 380V	5,5 kw	25	4 mm ²
TAY423P7K5	3FAZ 380V	7,5 kw	32	6 mm ²
TAY423P11K0	3FAZ 380V	11 kw	50	6 mm ²
TAY523P15K0	3FAZ 380V	15 kw	63	10 mm ²
TAY523P15K5	3FAZ 380V	18,5 kw	80	10 mm ²
TAY523P22K0	3FAZ 380V	22 kw	80	16 mm ²
TAY623P30K0	3FAZ 380V	30 kw	125	25 mm ²
TAY623P37K0	3FAZ 380V	37 kw	160	25 mm ²
TAY623P45K0	3FAZ 380V	45 kw	160	35 mm ²
TAY623P55K0	3FAZ 380V	55 kw	200	35 mm ²
TAY623P75K0	3FAZ 380V	75 kw	250	50 mm ²
TAY623P90K0	3FAZ 380V	90 kw	315	70 mm ²
TAY623P110K0	3FAZ 380V	110 kw	400	70 mm ²
TAY623P132K0	3FAZ 380V	132 kw	600	120 mm ²
TAY623P160K0	3FAZ 380V	160 kw	600	120 mm ²
TAY623P200K0	3FAZ 380V	200 kw	600	150 mm ²



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