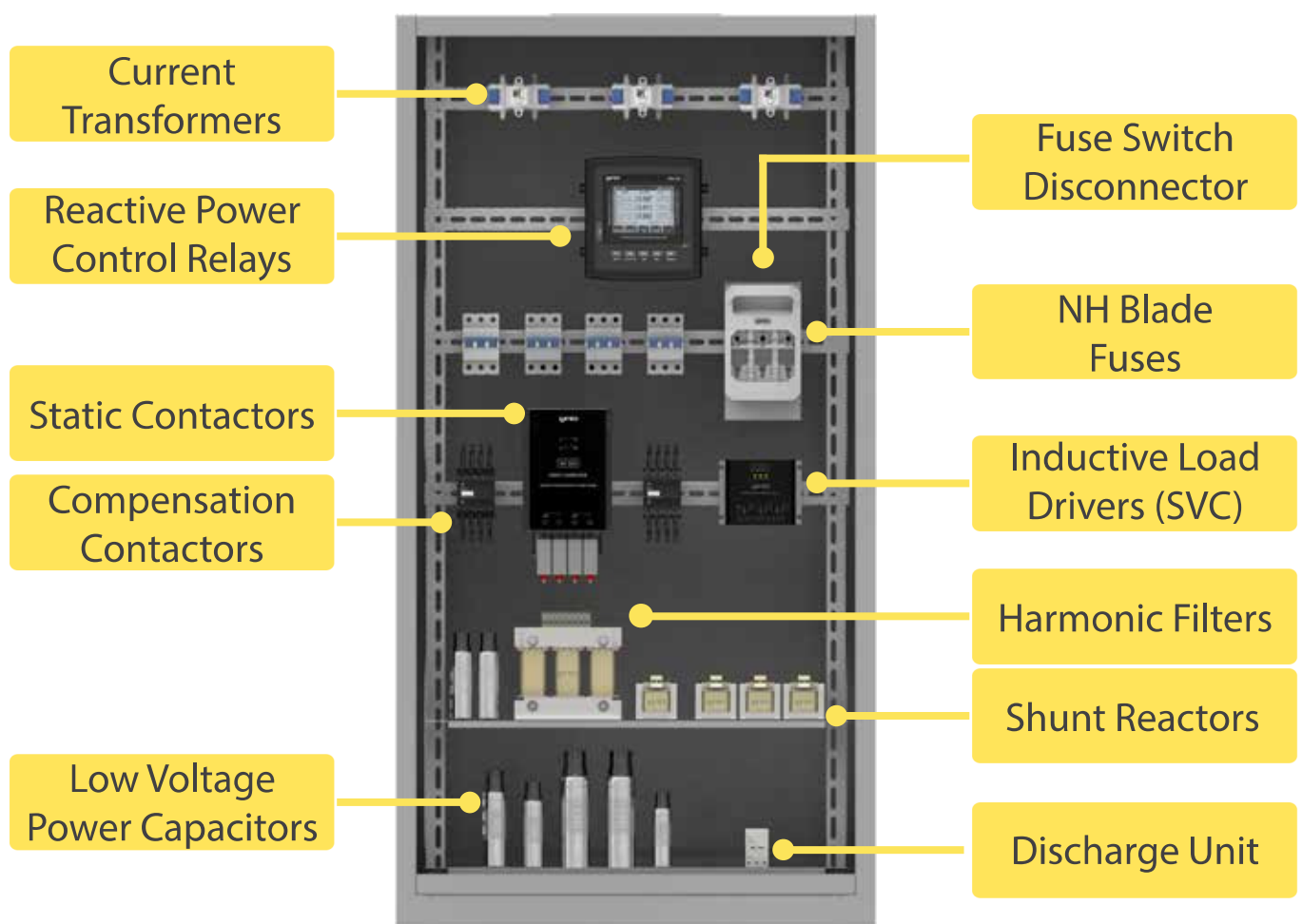


Compensation

ENTES Compensation products are designed to prevent the consumption of reactive energy (kVA_{rh}) more than the rates determined in the regulation. In this way; Users are prevented from paying reactive costs and energy costs are reduced by reducing losses in transmission/ distribution lines.



Reactive Power Control Relays

Thanks to wide feature of RGI series single phase reactive power control relays, all electrical parameters are received by one current transformer in systems with balanced loads and required compensation is made.

With RG-T Series Reactive Power Control Relays, compensation can be made by measuring current information from a single phase in systems with balanced loads.

RG3 Series devices provide compensation by measuring the voltage and current of 3 phases separately in systems with unbalanced loads.

RG3-15CL/CLS Relays provide a definitive solution for compensation of inductive and capacitive loads by controlling both capacitor and shunt reactors.

The new RGA and RGSR Series Reactive Power Control Relays offer a superior Compensation experience with its Graphic LCD screen, high measurement accuracy and driver support. RGSR and RGP-SR Series Reactive Power Control Relays, with their SVC features, work together with Inductive Load Drivers in businesses where the unbalanced load changing rapidly and precisely eliminate the unbalance of each phase. The new generation RGP Series Reactive Power Control Relays have a patented and award-winning design that tells the Compensation status with a smileyR (smiley face) without going to the device.



Product Comparison Chart

Product Name	Step	Dimensions/mm	Shunt Reactor	SVC	MV (Medium Voltage)	1 Phase, 1 Current Transformer (Balanced Network)	3 Phase, 3 Current Transformer	1 Phase Capacitor	3 Phase Capacitor	Total Active, Reactive and Apparent Power	Active and Reactive Energy	THD Protection	1-19, Current and Voltage Harmonics	1-31, Current and Voltage Harmonics	1-51, Current and Voltage Harmonics	Dual Target Cosφ	Automatic Setup	Password Protection	RS-485 Communication	Internal Temperature Sensor	Contact Output
RGI-4W	4	144x144	●			●			●	●	●			●		●	●				
RGI-6SW	6	144x144	●			●			●	●	●			●		●	●	●	●	●	●
RGI-9SW	9	144x144	●			●			●	●	●			●		●	●	●	●	●	●
RGI-12SW	12	144x144	●			●			●	●	●			●		●	●	●	●	●	●
RG-6T	6	144x144				●			●												
RG-8T	8	144x144				●			●												
RG-12T	12	144x144				●			●												
RG3-12e	12	144x144					●	●	●		●						●	●			
RG3-12C	12	144x144					●	●	●	●	●	●	●			●	●	●		○	●
RG3-12CS	12	144x144					●	●	●	●	●	●				●	●	●	●	○	●
RG3-15C	15	144x144					●	●	●	●	●	●				●	●	●			●
RG3-15CS	15	144x144					●	●	●	●	●	●				●	●	●	●		●
RG3-15CL	15	144x144	●				●	●	●	●	●	●				●	●	●			●
RG3-15CLS	15	144x144	●				●	●	●	●	●	●				●	●	●	●		●
RGP-9S	9	144x144	●				●	●	●	●	●			●		●	●	●	●		●
RGP-12S	12	144x144	●				●	●	●	●	●			●		●	●	●	●	○	●
RGP-12SR	9 + SVC	144x144	●	●			●	●	●	●	●			●		●	●	●	●		●
RGP-15SR	12 + SVC	144x144	●	●			●	●	●	●	●			●		●	●	●	●	○	●
RGA-15S	15	144x144	●				●	●	●	●	●				●	●	●	●	●		●
RGA-20S	20	144x144	●				●	●	●	●	●				●	●	●	●	●		●
RGA-24S	24	144x144	●				●	●	●	●	●				●	●	●	●	●		●
RGSR-15S	12 + SVC	144x144	●	●			●	●	●	●	●				●	●	●	●	●		●
RGSR-20S	16 + SVC	144x144	●	●			●	●	●	●	●				●	●	●	●	●		●
RGSR-24S	20 + SVC	144x144	●	●			●	●	●	●	●				●	●	●	●	●		●
RGA-20S-OG	24	144x144	●		●		●	●	●	●	●				●	●	●	●	●		●
RGSR-24S-OG	20 + SVC	144x144	●	●	●		●	●	●	●	●				●	●	●	●	●		●

○ Optional

ENTES 3-phase reactive power control relays provides a unique solution for balanced and unbalanced loads by compensating with three-phase capacitors until the unbalance of 3 phases starts, and with single-phase capacitors in phases where there is unbalance.

Reactive Power Control Relays

RGI Series



RGI Series Reactive Power Control Relays switch 3-phase capacitor and 3-phase shunt reactor steps in balanced systems as needed.

Models with 4, 6, 9, 12 steps are available to meet optimum requirements for compensation. The universal 4-button design and the redesigned menu structure within the framework of expectations from a compensation relay offer ease of use.

RGI Series Reactive Power Control Relays work fully integrated with EnerMedic and Enerthings. Energy Management Softwares and promise a unique user experience to users.



Product Comparison Chart

Product Name	Step	Dimensions/mm	Segment LCD	Shunt Reactor	1 Phase 1 Current	Three Phase Capacitor	V, I, Cosp, W, VAr, VA	$\Sigma W, \Sigma VAr, \Sigma VA, kWh, kVArh$	THDV/THDI	Individual Harmonic	RS-485 Communication	Temperature Measurement/Fan Output	Generator Trigger Cosp	90-550V AC/DC (AUXILIARY SUPPLY)
RGI-4W	4	144x144	●	●	●	●	●	●	●	31			●	●
RGI-6W	6	144x144	●	●	●	●	●	●	●	31			●	●
RGI-6SW	6	144x144	●	●	●	●	●	●	●	31	●	●	●	●
RGI-9W	9	144x144	●	●	●	●	●	●	●	31			●	●
RGI-9SW	9	144x144	●	●	●	●	●	●	●	31	●	●	●	●
RGI-12W	12	144x144	●	●	●	●	●	●	●	31			●	●
RGI-12SW	12	144x144	●	●	●	●	●	●	●	31	●	●	●	●



Benefit

RGI Series Power Factor Correction Relays are designed to control switching 3-phase capacitors or 3-phase shunt reactors to compensate reactive power in balanced networks. Reactive power control provides additional benefits such as efficient use of generators and transformer capacities, decreased cable loss, voltage regulation.



Application

Electrical system applications in industrial or commercial facilities obligated Power Factor Correction by domestic regulations.

Reactive Power Control Relays



RGP Series

RGP Series Reactive Power Control Relays stand out with their standard and SVC supported versions, wide segment LCD screen and unique features that provide ease of use.

With 9 and 12 step options, the RGP Series has the infrastructure that provides optimum compensation with the minimum number of steps.

The patented and design-awarded Smiley feature of the RGP Series allows you to understand the compensation status with smiley and different screen colors without going near the device.

The universal 4-button design and the redesigned menu structure within the framework of expectations from a compensation relay offer ease of use.

RGP Series Reactive Power Control Relays work fully integrated with EnerMedic and Enerthings Energy Management Softwares and promise a unique user experience to users.

Product Comparison Chart

Product Name	Maximum Step Number	144x144	Segment LCD	SVC	Shunt Reactor	3 Phase 3 Current	Single Phase Capacitor	Three Phase Capacitor	V, I, Cost, W, Var, VA	Σ W, Σ VA, Σ VA kWh, kVAh	% THD I, THD V	Individual Harmonic	RS-485 Communication	Temperature Measurement / Fan Output	Generator Trigger Cosp	100-270 VAC/DC
RGP-9S	9	●	●		●	●	●	●	●	●	●	31	●		●	●
RGP-12S	12	●	●		●	●	●	●	●	●	●	31	●		●	●
RGP-12SR	9+SVC	●	●	●	●	●	●	●	●	●	●	31	●		●	●
RGP-15SR	12+SVC	●	●	●	●	●	●	●	●	●	●	31	●	○	●	●

Award-Winning and Patented ENTES RGP Series Power Factor Correction Relay Series Reduces Energy Costs while improving the Energy Quality.

Benefit

RGP Series Power Factor Correction Relays are designed to prevent undesirable reactive costs by controlling the power factor. Reactive power control provides additional benefits such as efficient use of generators and transformer capacities, decreased cable loss, voltage regulation.

Application

Electrical system applications in industrial or commercial facilities obligated Power Factor Correction by domestic regulations.

Reactive Power Control Relays

RGA Series



RGA Series Reactive Power Control Relays are designed to meet all kinds of compensation needs with their innovative structure and superior features.

With the support of the newly developed Intelligent Compensation Algorithm and the unbalance removal capability, the steps are easily and quickly managed. With the serial and intelligent step management, the problems in the components in the compensation panel can be detected and displayed, and alarms can be generated. Undesirable situations such as capacitor derating measurements and contactor sticking can be detected instantly by the RGA.

The RGA Series also supports the use of shunt reactors and capacitors together to respond to the load created by capacitive devices. With its advanced infrastructure and algorithms, it can automatically recognize the levels and fix the connections.



Product Comparison Chart

Product Name	Dimension (mm)	Second Current Transformer	Smart Compensation Moods	Graphic LCD	3-Phase, 3 Current	Maximum Step Number	Smart Switching	Single Phase Capacitor	Shunt Reactor	Three Phase Capacitor	Voltage(V)/Current(I)	Cosφ	Power Factor	Active Power(W)	Reactive Power (W)	Apparent Power (VA)	kWh, kVarh, kVAh	%THD I, %THD V	Individual Harmonic	RS-485 Communication	Generator Trigger Cosp	100-270 VAC/DC
RGA-8S	144x144	●	●	●	●	8	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGA-12S	144x144	●	●	●	●	12	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGA-15S	144x144	●	●	●	●	15	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGA-20S	144x144	●	●	●	●	20	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGA-24S	144x144	●	●	●	●	24	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●



See page 63 for energy monitoring software.

Reactive Power Control Relay



RGSR Series

RGSR Series Reactive Power Control Relays are designed to meet all kind of driver compensation needs with their innovative structure and superior features.

ENTES SVC Compensation’s solution is ENTES Driver Compensation System, which provides the most ideal solution in systems with rapidly changing unbalanced loads. This system, which responds quickly to load changes in less than 20ms; It provides a precise compensation solution in applications such as companies using spot welding, rolling mills, cranes, elevators, automotive industry and hospitals.

In ENTES SVC solution, inductive load drivers connected to RGSR Series Reactive Power Control Relays are designed to drive 3 single-phase shunt reactors at full load. In this way, shunt reactors can be activated in an adjustable manner by triggering the powers at certain angles by means of thyristors.

ENTES’s 5 kVAr, 10 kVAr, 20 kVAr, 30 kVAr inductive load drivers switch very quickly to even the lowest loads by activating the shunt reactors connected to the phases as needed.

It can achieve perfect solution for capacitive loads by using single-phase shunt reactors of 1.66 kVAr, 3.33 kVAr, 6.66 kVAr and 10 kVAr, specially produced for ENTES’s SVC solution.

Product Comparison Chart

Product Name	Dimension (mm)	Second Current Transformer	Smart Compensation Moods	Graphic LCD	3 Phase, 3 Current	Maximum Step Number	Smart Switching	Single Phase Capacitor	Shunt Reactor	Three Phase Capacitor	Voltage(V)/ Current(I)	Cosp	Power Factor	Active Power (W)	Reactive Power (W)	Apparent Power (VA)	kWh, kVarh, kVAh	%THD I, %THD V	Individual Harmonic	RS-485 Communication	Generator Trigger Cosp	100-270 VAC/DC
RGSR-15S	144x144	●	●	●	●	12+SVC	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGSR-20S	144x144	●	●	●	●	16+SVC	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGSR-24S	144x144	●	●	●	●	20+SVC	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●



See page 63 for energy monitoring software.

Reactive Power Control Relays

RGA / RGSR OG Series Medium Voltage Reactive Power Relays



In enterprises located at the entrance of the MV power transformer of the electricity meter; Constant group capacitor needs change due to the variable losses of the transformer, especially on holidays when the transformer is idle running or the businesses which is working seasonal is closed, and this causes the compensation rates to increase and for this reason the company has to pay reactive cost. RGA and RGSR-OG Series Reactive Power Control Relays, with their innovative structure and superior features, in businesses which have the M.V Power Transformers are designed to meet the above-mentioned variable constant group needs and all kinds of compensation needs.



Product Comparison Chart

Product Name	Dimension (mm)	Second Current Transformer	M.V.	SVC	Smart Compensation Moods	Graphic LCD	Phase,3 Current	Maximum Step Number	Smart Switching	Single Phase Capacitor	Shunt Reactor	Three Phase Capacitor	Voltage(V)/ Current(I)	Cosp	Power Factor	Active Power(W)	Reactive Power (W)	Apparent Power (VA)	kWh, kVAh, kVAh	%THD I, %THD V	Individual Harmonic	RS-485 Communication	Generator Trigger Cosp	100-270 VAC/DC
RGA-20S-OG	144x144	●	●		●	●	●	20	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGA-24S-OG	144x144	●	●		●	●	●	24	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGSR-20S-OG	144x144	●	●	●	●	●	●	16+SVC	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●
RGSR-24S-OG	144x144	●	●	●	●	●	●	20+SVC	●	●	●	●	●	●	●	●	●	●	●	●	51	●	●	●



Benefit

OG series Reactive Power Control products, in enterprises where the electricity meter is at the entrance of the M.V power transformer; It prevents reactive cost payment, especially on holidays when the transformer is idle running or during the off-season periods of seasonal businesses.



Usage Areas

It should be used in enterprises where the electricity meter is located at the entrance of the M.V. power transformer, in GES, RES and BES.

SR Series



SR Series Inductive Load Drivers

*ENTES's 5kVAr, 10kVAr, 20kVAr and 30kVAr Inductive Load Drivers can switch very quickly to even the lowest loads by activating the shunt reactors connected to the phases in the SVC system, as needed.

*A perfect solution for capacitive loads can be obtained by using single-phase shunt reactors of 1.66kVAr, 3.33kVAr, 6.66kVAr and 10 kVAr, specially produced for ENTES's SVC solution.

Technical Features:

- Operating Temperature -10, +55°C Storage Temperature -20, +70°C
- Supply Voltage 210-250 VAC (L-N): $\sqrt{3}$ *Un (L-L) Frequency 45-65Hz
- Max. Humidity %95 / Response time less than 20ms Easy to install / Fan Cooling (SR-30E)



Product Comparison Chart

Product Name	Power(kVAr)	Number of Shunt Reactors	Shunt Reactor Type	Operating Voltage	Connection Type	Dimension(mm)	Weight(kg)
SR-05E	5	3	Monaphase (Single Phase)	230	Star	119x121x92	0,9
SR-10E	10	3	Monaphase (Single Phase)	230	Star	119x121x152	1,4
SR-20E	20	3	Monaphase (Single Phase)	230	Star	119x162x337	2,29
SR-30E	30	3	Monaphase (Single Phase)	230	Star	119x167x337	3,18

Accurate Correction of Power Factor with **ENTES SR Series** Inductive Load Drivers...



Benefit

ENTES SR Series Power Factor Correction Relays are ideal for the fast changing unbalanced loads.



Usage Areas

In parallel with technological developments, applications such as LED lighting and UPS produce capacitive effect with increasing momentum. Conventional power factor correction methods may be insufficient in plants where instantaneous loads are required for the applications like lifts, spot welders and cranes and businesses face reactive cost. SR Series Inductive Load Drivers are innovative precise solution to reach your power factor targets.



Medium Voltage Current Transformers

Medium Voltage current transformers work together with reactive power control relays that receive current information from medium voltage.

With the advanced insulation level, the medium voltage power transformer is mounted on the XLPE cables on the primary side and current measurement is made by the MV.

Usage Areas

Enterprises that electricity meter is located at the entrance of the MV Power Transformer.



Technical Features

Product Name	Maximum Busbar Size (mm)	Primary Current (A)	Nominal Power (VA)	Class 0,5	Class 0,5S	pcs/box
ENT.A65-OG 30/1	65	30	1	●		3
ENT.A65-OG 40/1	65	40	1,5	●		3
ENT.A65-OG 50/1	65	50	2,5	●		3
ENT.A65-OG 100/5	65	100	5		●	3
Operating Frequency			50 Hz			
Insulation Test Voltage(Ui)			3 kV eff, 1 min			
Maximum Operating Voltage(Um)			0,72 kV			
Over Current Factor			n<5 (Ip ≤ 2000 A)			
Continuous Operating Current			1,2 x Ip			
Thermal Short-Circuit Current(Ith)*			60 x Ip			
Dynamic Rated Current (Idyn)*			2,5 x Ith			
Operating Temperature			-5 °C / +45 °C			
Standard			TS EN 61869-2			
pcs/box			3			

* About thermal short-circuit current (Ith) and dynamic nominal current (Idyn)

Ith is the maximum effective primary current that the current transformer can operate for 1 second without fail in case of overload caused by short circuits on the secondary side. Idyn is the maximum peak current that the current transformer can operate in the same time without fail.

MV Current Transformers are used only with insulated MV XLPE cable.

Direct mounting to MV busbars should never be done.

Low Voltage Power Capacitors



Low Voltage Power Capacitors

- Trouble-free operation under severe conditions
- Safe operation with overpressure disconnector system
- Self healing feature
- Robust body and compact design

ENTES Power Capacitors are designed in accordance with harsh conditions and adverse conditions that will shorten their life during compensation. With the overpressure disconnector system, the capacitors are prevented from bursting at the end of the capacitor's life or in electrical thermal overloads.

ENTES Capacitors are manufactured using metallized polypropylene film with self-healing properties.

Disruptive effects occur during the activation of compensation capacitors. The inrush current of the activated capacitor reduces the life of both itself and the other capacitors in the circuit. The most appropriate way to eliminate these negativities is to use capacitors together with compensation contactors.

Increase your efficiency by monitoring your capacitors' health remotely!



Benefit

Capacitors compensate inductive reactive loads. ENTES Low Voltage Power Capacitors are designed resistant to harsh conditions to provide you the longest usage time.

Low Voltage Power Capacitors

Model	CF Series	CM Series	CMD Series	CXD.H Series	CXD Series
Operating Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Capacity Tolerance	%-5+%10	%-5+%10	%-5+%10	%-5+%10	%-5+%10
Dielectric Losses	≤0,3 W/kVAr	≤0,2 W/kVAr	≤0,2 W/kVAr	≤0,2 W/kVAr	≤0,2 W/kVAr
Operating Height	≤2000 m	≤2000 m	≤2000 m	≤2000 m	≤2000 m
Test Voltage (Terminal-Terminal)	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s
Test Voltage (Terminal-Housing)	3 kV, AC 10 s	3 kV, AC 10 s	3 kV, AC 10 s	3 kV, AC 10 s	3 kV, AC 10 s
Operating Temperature	-25+55°C	-25+55°C	-25+55°C	-25+55°C	-25+55°C
Maximum Allowed Voltage	1,1xUn	1,1xUn	1,1xUn	1,1xUn	1,1xUn
Maximum Allowed Current	2 x In	4 x In	3 x In	4 x In	4 x In
Maximum Starting Current	100 In	200 In	200 In	200 In	200 In
Protection Class	IP00	IP00	IP20	IP20	IP20
Discharge Resistors	External, 60 sec. then 50V	External, 60 sec. then 50V	Internal, 60 sec. then 50V	Internal, 60 sec. then 50V	Internal, 60 sec. then 50V
Standard	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2

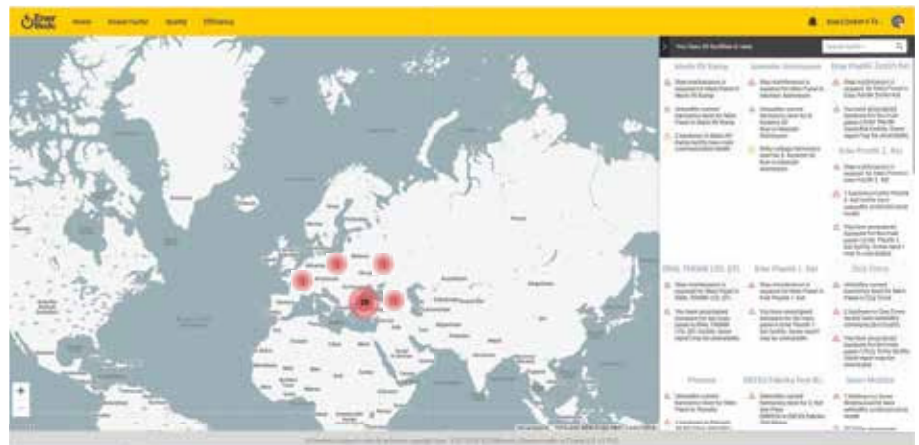
CM - CF Series (Single Phase)

Product Name	80.000 Hour	110.000 Hour	Qn (kVAr) for 230 VAC	400 VAC for Qn (kVAr)	C (uF)	In (A)	Dimensions DxH (mm)	Package Dimensions	Operating Temperature	Quantity in Package	Package Weight (kg)
ENT.CF-230-0,26	●		0,26	0,8	15	1,2	40x72	195x390x250	-400+ 750	100	10
ENT.CF-400-1,67	●		0,55	1,67	33,2	4,2	50x122	195x390x200	-250+ 550	25	7,3
ENT.CF-400-2,5	●		0,83	2,5	50	6,25	55x132	195x390x255	-250+ 550	25	9,5
ENT.CF-400-4,17	●		1,38	4,17	83	10,4	60x137	195x390x255	-250+ 550	18	7,7
ENT.CM-400-8,33		●	2,76	8,33	165,8	20,8	65x165	195x390x255	-250+ 550	16	9,8
ENT.CF-230-5		●	5		300	20,7	75x180	190x285x265	-400+ 700	6	5,5
ENT.CF-230-10		●	10		600	43	85x280	190x285x375	-400+ 700	6	10,7

Please contact us for 60Hz capacitors.



You can monitor the reactive power consumption of your businesses with EnerMedic.



Compensation

CMD/CXD.H/CXD Series Three Phase Capacitors

Product Name	80.000 Hour	400 VAC for Qn (kVAr)	450 VAC for Qn (kVAr)	C (uF)	In (A)	Dimensions DxH (mm)	Package Dimensions	Operating Temperature	Quantity in Package	Package Weight (kg)
ENT.CMD-400-0,5	●	0,5		3x3,32	0,7	50x150	195x390x255	-25°C+55°C	21	5,5
ENT.CMD-400-1	●	1		3x6,63	1,4	50x150	195x390x255	-25°C+55°C	21	6
ENT.CMD-400-1,5	●	1,5		3x9,95	2,2	50x150	195x390x255	-25°C+55°C	21	7,5
ENT.CMD-400-2,5	●	2,5		3x16,6	3,6	60x150	195x390x255	-25°C+55°C	18	8,8
ENT.CMD-400-5	●	5		3x33,2	7,2	75x175	190x285x325	-25°C+55°C	6	5,3
ENT.CMD-400-7,5	●	7,5		3x49,7	10,8	75x265	190x285x345	-25°C+55°C	6	7,6
ENT.CMD-400-10	●	10		3x66,3	14,4	75x265	190x285x345	-25°C+55°C	12	15
ENT.CMD-450-0,5	●		0,5	3x2,62	0,6	50x150	195x360x255	-25°C+55°C	21	5,5
ENT.CMD-450-1	●		1	3x5,24	1,3	50x150	195x360x255	-25°C+55°C	21	6
ENT.CMD-450-1,5	●		1,5	3x7,86	1,9	50x150	195x360x255	-25°C+55°C	21	7,5
ENT.CMD-450-2,5	●		2,5	3x13,1	3,2	60x150	195x360x255	-25°C+55°C	18	8,8
ENT.CMD-450-5	●		5	3x26,2	6,4	75x175	190x285x325	-25°C+55°C	6	5,3
ENT.CMD-450-7,5	●		7,5	3x39,3	9,6	75x265	190x285x345	-25°C+55°C	12	7,6
ENT.CMD-450-10	●		10	3x52,4	12,8	75x265	190x285x345	-25°C+55°C	12	15

Please contact us for 60Hz capacitors.

Product Name	80.000 Hour	400 VAC for Qn (kVAr)	450 VAC for Qn (kVAr)	525 VAC for Qn (kVAr)	C (uF)	In (A)	Dimensions DxH (mm)	Operating Temperature	Quantity in Package	Package Weight (kg)
ENT.CXD.H-400-10	●	10			3x 66	14,4	75x255	-25°C+55°C	6	6,1
ENT.CXD.H-400-12,5	●	12,5			3x 83	18	75x255	-25°C+55°C	6	6,3
ENT.CXD.H-400-15	●	15			3x 99	21,7	85x255	-25°C+55°C	6	7,1
ENT.CXD.H-400-20	●	20			3x 133	28,9	90x255	-25°C+55°C	6	8,5
ENT.CXD.H-400-25	●	25			3x 166	36,1	116x255	-25°C+55°C	4	8,6
ENT.CXD.H-400-30	●	30			3x 199	43,3	116x255	-25°C+55°C	4	8,7
ENT.CXD.H-450-10	●		10		3x 52	12,8	75x255	-25°C+55°C	6	6,1
ENT.CXD.H-450-12,5	●		12,5		3x 65	16	75x255	-25°C+55°C	6	6,3
ENT.CXD.H-450-15	●		15		3x 79	19,2	85x255	-25°C+55°C	6	7,1
ENT.CXD.H-450-20	●		20		3x 105	25,7	90x255	-25°C+55°C	6	8,5
ENT.CXD.H-450-25	●		25		3x 131	32,1	100x255	-25°C+55°C	6	9,2
ENT.CXD.H-450-30	●		30		3x 157	38,5	116x255	-25°C+55°C	4	8,7
ENT.CXD.H-525-10	●			10	3x 157	11	75x255	-25°C+55°C	6	6,1
ENT.CXD.H-525-12,5	●			12,5	3x 48	13,7	75x255	-25°C+55°C	6	6,3
ENT.CXD.H-525-15	●			15	3x 58	16,5	85x255	-25°C+55°C	6	7,1
ENT.CXD.H-525-20	●			20	3x 77	22	90x255	-25°C+55°C	6	8,5
ENT.CXD.H-525-25	●			25	3x 96	27,5	100x255	-25°C+55°C	6	9,2
ENT.CXD.H-525-30	●			30	3x 115	33	116x255	-25°C+55°C	4	8,7

Please contact us for 60Hz capacitors.

CMD/CXD.H/CXD Series Three Phase Capacitors

Product Name	110.000 Hour	400 VAC for Qn (kVAr)	450 VAC for Qn (kVAr)	525 VAC for Qn (kVAr)	C (uF)	In (A)	Dimensions DxH (mm)	Package Dimensions	Operating Temperature	Quantity in Package	Package Weight (kg)
ENT.CXD-400-5	●	5			3x33	7,2	75x165	195x390x255	-25°C+55°C	6	5,4
ENT.CXD-400-7,5	●	8			3x49	10,8	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-400-10	●	10			3x66	14,4	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-400-12,5	●	13			3x83	18	85x255	185x290x270	-25°C+55°C	6	9,6
ENT.CXD-400-15	●	15			3x100	21,7	90x255	185x290x270	-25°C+55°C	6	10,8
ENT.CXD-400-20	●	20			3x133	28,9	100x255	225x340x225	-25°C+55°C	6	13,2
ENT.CXD-400-25	●	25			3x166	36,1	116x255	330x340x225	-25°C+55°C	4	11,9
ENT.CXD-400-30	●	30			3x199	43,3	116x290	330x340x225	-25°C+55°C	4	13,4
ENT.CXD-400-40	●	40			3x265	57,7	116x370	270x270x450	-25°C+55°C	4	15
ENT.CXD-400-50	●	50			3x332	72,2	125x370	270x270x451	-25°C+55°C	4	16
ENT.CXD-450-5	●		5		3x26	6,4	75x165	195x390x255	-25°C+55°C	6	5,4
ENT.CXD-450-7,5	●		7,5		3x39	9,6	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-450-10	●		10		3x52	12,8	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-450-12,5	●		12,5		3x66	16	85x255	185x290x270	-25°C+55°C	6	9,6
ENT.CXD-450-15	●		15		3x79	19,2	90x255	185x290x270	-25°C+55°C	6	10,8
ENT.CXD-450-20	●		20		3x104	25,7	100x255	225x340x270	-25°C+55°C	6	13,2
ENT.CXD-450-25	●		25		3x131	32,1	116x255	330x340x225	-25°C+55°C	4	11,9
ENT.CXD-450-30	●		30		3x157	38,5	116x290	330x340x225	-25°C+55°C	4	13,4
ENT.CXD-450-40	●		40		3x219	52,5	116x370	270x270x452	-25°C+55°C	4	15
ENT.CXD-450-50	●		50		3x274	65,6	125x370	270x270x453	-25°C+55°C	4	16
ENT.CXD-550-2,5	●			2,3	3x8,5	2,6	65x165	195x390x255	-25°C+55°C	14	5,4
ENT.CXD-550-5	●			4,6	3x17	5,2	75x165	195x390x255	-25°C+55°C	6	5,4
ENT.CXD-550-7,5	●			6,8	3x25	7,9	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-525-10	●			10	3x38	12,1	85x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-525-12,5	●			12,5	3x48	15	85x255	185x290x270	-25°C+55°C	6	9,6
ENT.CXD-525-15	●			15	3x58	18,2	100x255	225x340x270	-25°C+55°C	6	10,8
ENT.CXD-525-20	●			20	3x77	24,2	116x255	330x340x225	-25°C+55°C	4	13,2
ENT.CXD-525-25	●			25	3x96	30,2	116x255	330x340x225	-25°C+55°C	4	11,9
ENT.CXD-525-30	●			30	3x115	36,3	116x290	330x340x225	-25°C+55°C	4	13,4
ENT.CXD-525-40	●			40	3x154	44	116x370	270x270x454	-25°C+55°C	4	15
ENT.CXD-525-50	●			50	3x192	55	125x370	270x270x455	-25°C+55°C	4	16

Please contact us for 60Hz capacitors.



Discharge Unit



DU-3 Discharge Unit

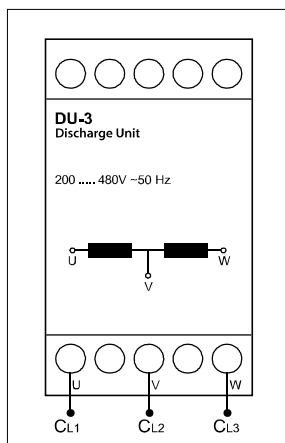
The DU-3 Discharge Unit discharges the capacitors that go on and off quickly, extending the lifetime of the capacitors and preventing internal heat losses.

Features	DU-3
Electrical Characteristics	
Coil Resistance	3000 Ω
Operating Period	Continuous
Nominal Voltage	230 ... 460 VAC
Nominal Frequency	50 Hz
The Number of Phase	3
LV Capacitor Power to be Discharged	5...50 kVAr
Losses	< 1 W
Mechanical Features	
Ambient Temperature	Maximum 40°C
Protection Class	IP20
Dimensions	PK21
Weight	0,4 kg
Product Quantity in 1 Box	20

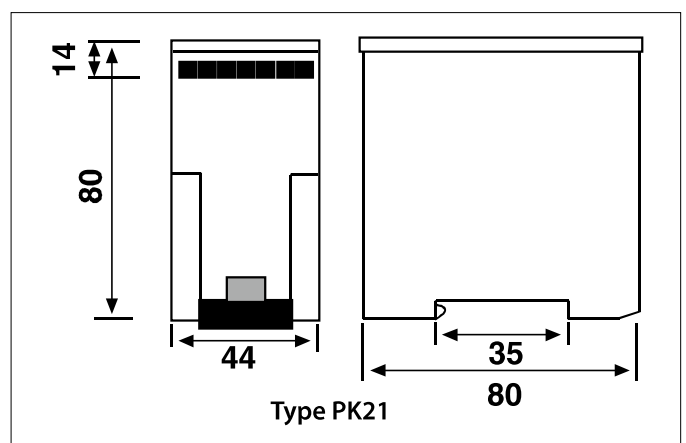
	Continuous Current (mA)		
	230V	400V	500V
U	1	4	8
V	2	6	12
W	1	4	8

Reactive Power Q (kVAr)	Discharge Time (sec)		
	230	400	450
10	4	2	2
20	8	3,5	3
25	10	4	4
30	12	5,5	5
50	20	8	6

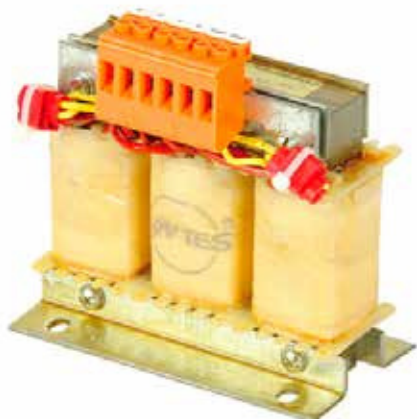
Connection Diagram



Dimensions



Shunt Reactors (Inductive Load Reactor)



ENT.SRS Series

Shunt Reactors; Designed for compensation of capacitive energy used by long underground power lines, UPSs, computers, electronic ballast and energy saving lamps. ENTES Shunt Reactors are designed in European standards, long-lasting and resistant to harsh operating conditions. All of the reactors designed to meet the inductive load requirement are CE marked.

Features;

- Single or three phase, high permeability, air gap design
- F insulation class insulation material with 155°C resistance in windings
- Design in accordance with customer specifications
- Thermal protection against overload
- Vacuum impregnated varnish method, which increases efficiency by reducing heat losses, provides protection against moisture and silent operation.
- CE marked Compatible with EN 61558 2-20

Compensate capacitive reactive power in each phase with ENTES SVC Shunt Reactors.



Benefit

Compensation is ensured based on required power characteristics with ENTES SVC Shunt Reactors. While balanced loads are compensated with three phase shunt reactors, imbalanced loads require single phase shunt reactors for each phase for the best performance.

Compensation

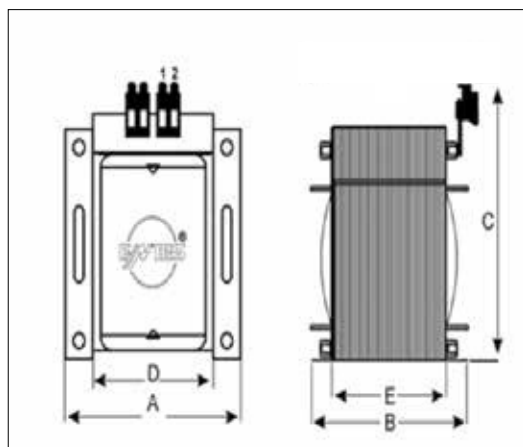
ENT.SRS Series

Single Phase Shunt Reactors

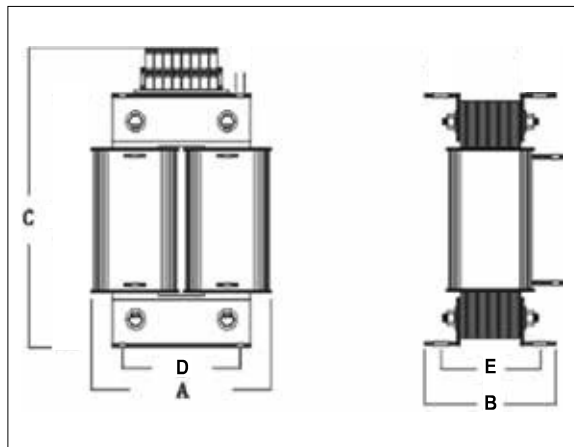
Product Name	kVAr	L (mH)	I _{rms} (A)	Operating Voltage	Dimension	Drawing	Weight (kg)
ENT.SRS1 230/0,1	0,1	1684	0,436	230V 50Hz	1	1	1,4
ENT.SRS1 230/0,25	0,25	674	1,09	230V 50Hz	2	1	2,4
ENT.SRS1 230/0,5	0,5	338	2,17	230V 50Hz	3	1	3,1
ENT.SRS1 230/0,3/0,4/0,5	0,3-0,4-0,5	338-421-560	1,30-1,74-2,17	230V 50Hz	7	1	3,7
ENT.SRS1 230/1	1	168	4,34	230V 50Hz	4	1	6,8
ENT.SRS1 230/1,5	1,5	112	6,53	230V 50Hz	5	1	9,2
ENT.SRS1.230/1,66	1,66	101	7,22	230V 50Hz	8	1	9,2
ENT.SRS1 230/2	2	84	8,7	230V 50Hz	9	1	12,5
ENT.SRS1 230/2,5	2,5	67	10,9	230V 50Hz	6	1	15,8
ENT.SRS1 230/3	3	57	12,83	230V 50Hz	9	1	15,95
ENT.SRS1.230/3,33	3,33	51	14,48	230V 50Hz	9	1	19,2
ENT.SRS1 230/5	5	33,7	21,74	230V 50Hz	10	2	20,2
ENT.SRS1.230/6,67	6,67	25,3	29	230V 50Hz	10	2	22,5
ENT.SRS1 230/7,5	7,5	22,4	32,6	230V 50Hz	11	2	25,6
ENT.SRS1.230/10	10	16,8	43,48	230V 50Hz	11	2	28,5

Dimension	A	B	C	D	E
1	84	74	87	70	57
2	96	185	98	80	66
3	120	107	115	100	88
4	150	122	145	125	98
5	150	122	145	125	98
6	192	125	185	160	95
7	120	107	115	100	88
8	150	123	145	125	100
9	192	163	187	140	133
10	240	125	305	120	105
11	240	145	305	120	125

Drawing 1



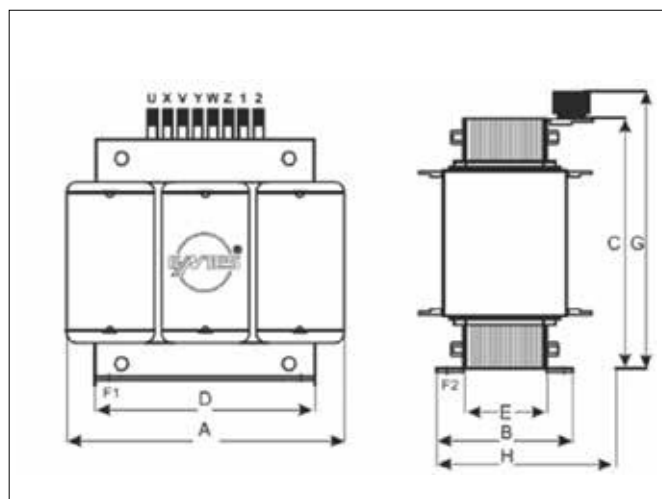
Drawing 2



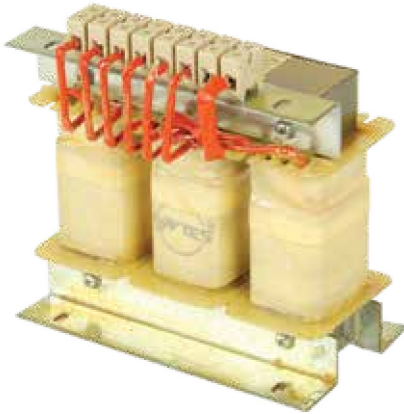
Three Phase Shunt Reactors

Product Name	kVAr	(mH)	(A)	Operating Voltage	Dimension	Weight (kg)
ENT.SRS3 400/0,25	0,25	2040	0,36	400V 50Hz	1	2,3
ENT.SRS3 400/0,5	0,5	1020	0,72	400V 50Hz	2	3
ENT.SRS3 400/1	1	505	1,44	400V 50Hz	3	7,8
ENT.SRS3 400/1,5	1,5	336	2,17	400V 50Hz	4	9,5
ENT.SRS3 400/2	2	255	2,89	400V 50Hz	5	11,6
ENT.SRS3 400/2,5	2,5	203	3,61	400V 50Hz	6	11,9
ENT.SRS3 400/3	3	170	4,33	400V 50Hz	7	16,7
ENT.SRS3 400/5	5	102	7,22	400V 50Hz	8	22,5
ENT.SRS3 400/7,5	7,5	68	10,83	400V 50Hz	9	32
ENT.SRS3 400/10	10	51	14,43	400V 50Hz	10	44
ENT.SRS3 400/15	15	34	21,65	400V 50Hz	11	53
ENT.SRS3 400/20	20	25,5	28,87	400V 50Hz	12	70,5
ENT.SRS3 400/25	25	20,4	36,09	400V 50Hz	13	94
ENT.SRS3 400/40	40	12,75	57,74	400V 50Hz	14	127

Dimension	A	B	C	D	E	F1	F2	G	H
1	120	68	102	100	53	12	7	125	75
2	150	63	127	125	48	12	7	150	70
3	180	93	152	150	77	12	7	175	100
4	180	103	152	150	87	12	7	175	110
5	240	93	203	200	87	12	7	225	210
6	240	103	203	200	87	12	7	225	220
7	240	103	203	200	87	12	7	225	220
8	300	125	253	250	105	17	9	275	145
9	300	135	255	250	115	17	9	275	155
10	360	136	305	300	112	17	9	305	200
11	420	146	355	350	122	20	13	355	260
12	420	166	355	350	142	20	13	355	260
13	480	166	405	400	136	20	13	405	260
14	480	206	405	400	176	20	13	405	300



Harmonic Filter Reactors



ENT.ERH Series

ENTES Harmonic Filter Reactors are high quality reactors designed to protect the compensation system by absorbing harmonics in reactive power control systems.

With the use of harmonic filters, the currents passing through the capacitors are reduced by creating an additional impedance to the capacitor impedance at harmonic frequencies (such as the 5th harmonic 250 Hz and the 7th harmonic 350 Hz).

When the capacitor is switched on, the heating of the capacitor decreases as the currents flowing through the capacitor will decrease at harmonic frequencies.

The high currents that occur while the capacitor groups are activated are prevented.

Possible overload risk is eliminated due to resonance.

Capacitor life is extended since the possibility of heating and insulation rupture is reduced.

Since harmonics will decrease throughout the enterprise, it helps to protect sensitive devices such as computers, medical systems, PLC from the disruptive effects created by harmonics.

Features:

Air-gapped design that minimizes body grounding resistance

High magnetic permeability iron core

Vacuum impregnated varnish method, which increases efficiency by reducing heat losses, provides protection against moisture and provides silent operation.

Thermal protection switch in the middle coil against overload and overheating

CE marked, compliant with EN 61000-2-2 and EN 61558 2-20

Harmonic Filter Reactor Selection

For the selection of the harmonic filter reactor, first of all, harmonic (THDV and THDI) measurements should be made at different times and under different load conditions while the Compensation system is turned off.

fr=P factor	THDV	THDI
%5,67	< %2	>%25
%7	All other situations	
%14	>%4	<%15

fr=P factor	Resonance Frequency for 50Hz	C Min. Voltage Value
%5,67	210Hz	424V
%7	189Hz	430V
%14	134Hz	465V

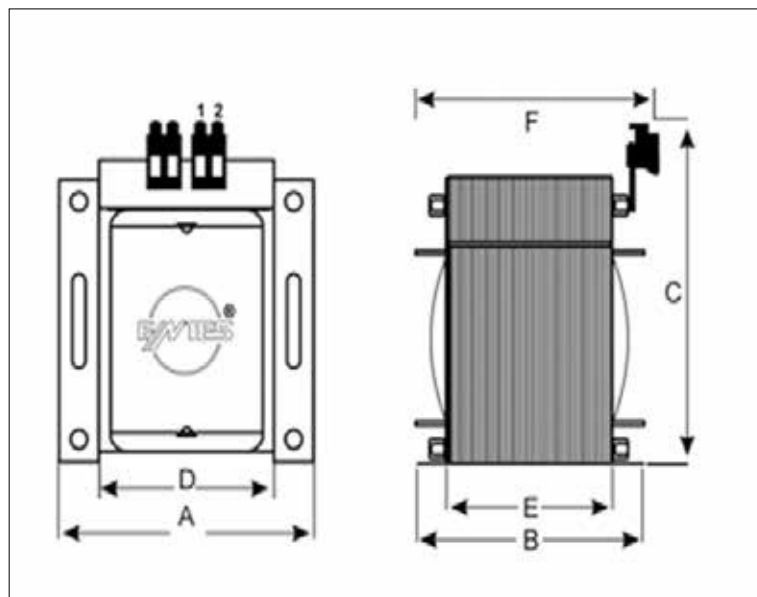
Harmonic Filter Reactors

Single Phase Harmonic Filter Reactors

Harmonic Filter Reactor Selection Chart
230V 50Hz, 189Hz Resonance Frequency (p=7%)

Type	kVAr	L (mH)	I _{rms} (A)	I _{th} (A)	I _{lin} (A)	C* (uF)	Dimension	Weight (kg)	Appropriate Capacitor
ENT.ERH-E50 7-230-0,28	0,28	45,35	1,22	1,342	2,5	15,65	1	0,75	ENT.CF-230-0,26
ENT.ERH-E50 7-230-0,6	0,6	21,35	2,58	2,838	5,2	33,24	2	0,95	ENT.CF-400-1,67
ENT.ERH-E50 7-230-0,9	0,9	14,26	3,86	4,246	8,6	49,76	3	1,4	ENT.CF-400-2,50
ENT.ERH-E50 7-230-1,5	1,5	8,554	6,44	7,084	15,4	83	4	2	ENT.CF-400-4,17
ENT.ERH-E50 7-230-3	3	4,282	12,87	14,157	26,4	165,8	5	2,9	ENT.CF-400-8,33
ENT.ERH-E50 7-230-4,44	4,44	2,854	19,32	21,252	39,6	248,8	6	3,7	ENT.CF-400-4,17 + ENT.CF-400-8,33
ENT.ERH-E50 7-230-5,40	5,4	2,359	23,37	25,707	47,8	301	7	3,95	ENT.CF-230-5
ENT.ERH-E50 7-230-10,75	10,75	1,179	46,75	51,425	95,6	602	8	6,5	ENT.CF-230-10

Dimension	A	B	C	D	E	F
1	66	66	50	63	50	80
2	66	66	50	65	52	80
3	84	84	64	76	64	85
4	84	84	64	99	87	85
5	96	96	84	102	86	95
6	108	120	90	122	104	115
7	120	120	90	130	112	115
8	150	130	100	121	95	160



Harmonic Filter Reactors

Three Phase Harmonic Filter Reactors

Harmonic Filter Reactor Selection Chart

400V 50Hz, 210Hz Resonance Frequency ($p=5.67\%$)

ENT.ERH-E50	kVAr	L (mH)	I _{rms} (A)	I _{th} (A)	I _{in} (A)	C* (uF)	Dimension	Weight (kg)	Appropriate Capacitor
ENT.ERH-5,67-400-4	4	7,65	7,02	7,72	15,92	25,02	0	4	ENT.CXD-450-5
ENT.ERH-5,67-400-5	5	6,12	8,77	9,65	19,90	31,28	0	4,5	ENT.CXD-450-5+ENT.CXD-450-1
ENT.ERH-5,67-400-6,25	6,25	4,90	10,97	12,06	24,87	39,1	0	5	ENT.CXD-450-7,5
ENT.ERH-5,67-400-7,5	7,5	4,08	13,16	14,48	29,85	46,92	1	7	ENT.CXD-450-7,5+ENT.CMD-450-1,5
ENT.ERH-5,67-400-10	10	3,06	16,8	18,48	35,13	62,55	13	6,5	ENT.CXD-450-12,5
ENT.ERH-5,67-400-12,5	12,5	2,45	21	23,1	43,91	78,19	19	8	ENT.CXD-450-15
ENT.ERH-5,67-400-16,6	16,6	1,84	27,88	30,67	58,32	103,84	15	9,9	ENT.CXD-450-20
ENT.ERH-5,67-400-20	20	1,53	33,6	36,95	70,26	125,11	4	12,2	ENT.CXD-450-25
ENT.ERH-5,67-400-25	25	1,53	38,11	41,92	73,52	154,18	5	15,2	ENT.CXD-450-30
ENT.ERH-5,67-400-30	30	1,02	50,39	55,43	105,39	187,66	6	16,9	ENT.CXD-450-15+ENT.CXD-450-20
ENT.ERH-5,67-400-40	40	0,77	67,19	73,91	140,53	250,22	16	18,7	ENT.CXD-450-25 2 pcs
ENT.ERH-5,67-400-50	50	0,61	83,99	92,39	175,66	312,77	18	26,9	ENT.CXD-450-30 2 pcs
ENT.ERH-5,67-400-60	60	0,51	100,79	110,86	210,79	375,33	10	38,9	ENT.CXD-450-25 3 pcs
ENT.ERH-5,67-400-80	80	0,38	134,38	147,82	281,05	500,44	10	42,3	ENT.CXD-450-25 4 pcs
ENT.ERH-5,67-400-100	100	0,31	167,98	184,77	351,31	625,55	10	48,6	ENT.CXD-450-30 4 pcs

400V 50Hz, 189Hz Resonance Frequency ($p=7\%$)

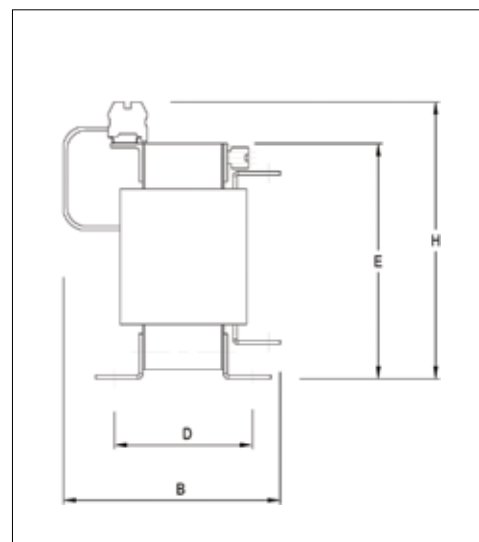
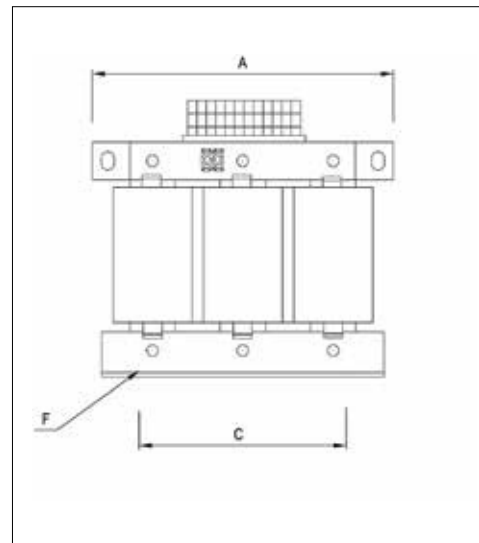
ENT.ERH-E50	kVAr	L (mH)	I _{rms} (A)	I _{th} (A)	I _{in} (A)	C* (uF)	Dimension	Weight (kg)	Appropriate Capacitor
ENT.ERH-7-400-2,5	2,5	15,3	4	4,4	8,4	15	0	4	ENT.CXD-450-1,5 2 pcs
ENT.ERH-7-400-4	4	9,58	6,4	7	13,4	24,7	0	4,5	ENT.CXD-450-5
ENT.ERH-7-400-5	7,6	7,67	8	8,85	1	30,8	0	5	ENT.CXD-450-5+ENT.CMD-450-1
ENT.ERH-7-400-6,25	6,25	6,12	10,4	11,05	20,97	39,30	1	7	ENT.CXD-450-7,5
ENT.ERH-7-400-7,5	7,5	5,11	12,05	13,26	25,16	47,16	1	7	ENT.CXD-450-7,5+ENT.CMD-450-1,5
ENT.ERH-7-400-10	10	3,83	15,24	16,77	29,41	61,67	19	8,1	ENT.CXD-450-12,5
ENT.ERH-7-400-12,5	12,5	3,07	19,06	20,96	36,76	77,09	3	9,3	ENT.CXD-450-15
ENT.ERH-7-400-16,6	16,6	2,31	25,31	27,84	48,82	102,38	4	11,4	ENT.CXD-450-20
ENT.ERH-7-400-20	22,2	1,92	30,49	33,54	58,82	123,35	4	12,2	ENT.CXD-450-25
ENT.ERH-7-400-25	25	1,53	38,11	41,92	73,52	154,18	5	15,2	ENT.CXD-450-30
ENT.ERH-7-400-30	30	1,28	45,73	50,31	88,23	185,02	6	16,9	ENT.CXD-450-15+ENT.CXD-450-20
ENT.ERH-7-400-40	40	0,96	60,98	67,07	117,64	246,69	16	18,7	ENT.CXD-450-25 2 pcs
ENT.ERH-7-400-50	50	0,77	76,22	93,84	147,05	308,36	18	26,9	ENT.CXD-450-30 2 pcs
ENT.ERH-7-400-60	60	0,64	91,47	100,61	176,46	370,04	10	38,9	ENT.CXD-450-25 3 pcs
ENT.ERH-7-400-80	80	0,48	121,95	134,15	235,28	493,38	10	42,3	ENT.CXD-450-25 4 pcs
ENT.ERH-7-400-100	100	0,38	152,44	167,69	294,1	616,73	10	48,6	ENT.CXD-450-30 4 pcs

Harmonic Filter Reactors

400V 50Hz, 134Hz Resonance Frequency ($p=14$)

ENT.ERH-E50	kVAr	L (mH)	I _{rms} (A)	I _{th} (A)	I _{lin} (A)	C* (uF)	Dimension	Weight (kg)	Appropriate Capacitor
ENT.ERH-14-400-5	5	16,58	7,69	8,46	14,03	28,52	1	6,5	ENT.CXD-525-7,5
ENT.ERH-14-400-6,25	6,25	13,27	9,62	10,58	17,54	35,64	2	7,5	ENT.CXD-525-10
ENT.ERH-14-400-7,5	7,5	11,05	11,54	12,69	21,05	42,77	2	9	ENT.CXD-550-7,5+ENT.CXD-550-5
ENT.ERH-14-400-10	10	8,29	14,52	15,98	24,38	57,3	3	9,6	ENT.CXD-525-15
ENT.ERH-14-400-12,5	12,5	6,63	18,15	19,97	30,48	71,29	4	11,7	ENT.CXD-525-20
ENT.ERH-14-400-16,6	16,6	4,99	24,11	26,52	40,47	94,67	4	12,2	ENT.CXD-525-25
ENT.ERH-14-400-20	20	4,15	29,05	31,95	48,76	114,06	5	15,4	ENT.CXD-525-30
ENT.ERH-14-400-22,4	22,4	3,7	32,53	35,79	54,61	134,68	6	17,6	ENT.CXD-525-20+ENT.CXD-525-15
ENT.ERH-14-400-25	25	3,32	36,31	39,94	60,95	144,09	7	26,3	ENT.CXD-525-25+ENT.CXD-525-12,5
ENT.ERH-14-400-30	30	2,76	43,57	47,93	73,14	171,09	7	26,8	ENT.CXD-525-20+ENT.CXD-525-25
ENT.ERH-14-400-40	40	2,07	58,09	63,9	97,52	228,12	8	29,9	CXD-525-30 2 pcs
ENT.ERH-14-400-44,4	44,4	1,87	64,49	70,93	108,25	253,22	8	31,8	ENT.CXD-525-30+ENT.CXD-525-25+ENT.CXD-525-12,5
ENT.ERH-14-400-50	50	1,66	72,62	79,88	121,9	285,15	9	31,8	CXD-525-25 3 pcs
ENT.ERH-14-400-60	60	1,38	87,14	95,86	146,29	342,18	10	41	CXD-525-30 3 pcs
ENT.ERH-14-400-80	80	1,04	116,19	127,81	195,05	456,24	11	48,6	CXD-525-30 4 pcs
ENT.ERH-14-400-100	100	0,83	145,24	159,76	243,81	570,31	12	61,2	CXD-525-30 5 pcs

Dimension	A	E	H	B	C	D
0	120	100	120	45	-	-
1	150	-	160	105	110	56
2	180	-	270	120	185	78
3	180	160	-	155	135	97
4	240	210	-	140	185	79
5	240	210	-	150	185	89
6	240	210	-	160	185	99
7	264	248	-	190	200	121
8	300	260	-	185	224	116
9	300	260	-	190	224	121
10	360	310	-	205	265	126
11	360	310	-	215	265	138
12	360	310	-	235	265	156
13	180	160	-	135	135	178
14	180	160	-	145	135	88
15	180	-	185	120	135	97
16	240	210	-	165	185	104
17	264	248	-	170	200	101
18	300	260	-	180	224	111
19	180	160	-	145	135	88,5
20	180	160	-	145	135	97
21	240	210	-	160	185	99
22	240	210	-	160	200	106
23	264	250	-	155	200	106
24	264	250	-	170	200	121
25	300	365	-	185	224	116
26	300	310	-	195	265	126



Compensation Contactors

ENT-KT Series



ENT-KT Compensation Contactors are double-step contactors specially designed to prevent high inrush currents. With the ENT-KT auxiliary contact block, it transmits the inrush currents over the damping resistors and ensures that the overcurrents remain within acceptable limits. (In 2.5 and 5kVAR models, resistance to overcurrents is provided by a reinforced special contact alloy.)

Features;

Auxiliary contact block

Three-phase connection

Possibility to connect capacitors up to 60 kVAR

Coil voltage: 220-230 VAC 50/60 Hz conforming to IEC-947

Long electrical life

UL certified (12,16,20 and 25kVAR models)

Can be given as UL certified in exported panels (12,16,20 and 25kVAR models)

With these features of ENT-KT Compensation Contactors:

- Contact life is extended
- Reactive penalty risk due to contactor failures (compensation error) is reduced. Capacitor failures are reduced.
- Energy quality is improved by preventing voltage fluctuations
- As the maintenance period of the compensation system will be longer and unexpected failure situations will decrease, the production losses of the enterprises will decrease.

Compensation Contactors

ENT-KT Series

Type	Operating Power(kVA)		Instant Auxiliary Contacts		Max Number of Operations per hour	Number of Switching Life Applications
	0 < 55°C	50/60 Hz	NO	NC		
	200V 240V	400V 440V				
ENT-KT-2,5-C10	1,4	2,5	1	0	240	150.000
ENT-KT-5-C10	2,8	5	1	0	240	150.000
ENT-KT-7,5-C11	4,0	7,5	1	1	240	200.000
ENT-KT-12-C11	6,7	12,5	1	1	240	200.000
ENT-KT-16-C11	8,5	16,7	1	1	240	200.000
ENT-KT-20-C11	10,0	20,0	1	1	240	100.000
ENT-KT-25-C11	15,0	25,0	1	1	240	100.000
ENT-KT-33-C12	20,0	33,3	1	2	240	100.000
ENT-KT-40-C12	25,0	40,0	1	2	240	100.000
ENT-KT-60-C12	40,0	60,0	1	2	240	100.000
ENT-KT-75-C12	45,0	75,0	1	2	240	100.000

