ANTIDR TUNING REACTOR

Operation manual

Lafaelt

LAFAELT ELECTRIC

Attention

- Electrical equipment should be installed, operated, used and maintained by qualified professionals. This manual is an operation manual for trained professionals, the company will not be responsible for any adverse consequences caused by failure to follow the instructions.

Safety precautions

Attention

Risk of electric shock, drop and high temperature

- Only qualified professionals can install this device, after reading this manual.
- Not work alone.
- Power off all electrical connection before checking, testing and maintaining this device.
- Special attention should be paid to the design of the power system, considering all power sources, including the possibility of reverse power transmission.
- Use properly regulated voltage test device to make sure all the power resources have been cut off.
- Beware of the potential dangers, take personal protection, and carefully check the working area inside the device to ensure no tools and other objects left behind.
- Be careful not to touch live busbars when moving or installing panels to avoid personal injury.
- The successful operation of this device depends on proper installation and operation. Neglect of basic installation requirements may result in personal injury, as well as damage to electrical device or other objects.
- When performing dielectric strength and insulation tests on the device, all input and output wires connected to it should be disconnected.

- During the operation of the device, the surface should be kept clean, and the terminals should be well fastened.

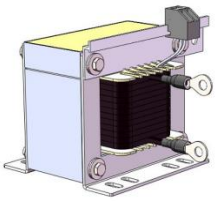
Main function of Antidr Tuning Reactor

- Suppressing higher harmonics and protecting safe operation of electric devices.
- Connect with capacitors in series, filter harmonic in power grid, suppress closing inrush current or overvoltage, to protect reactors.

Model Specification

LDR (S) 480-50-7

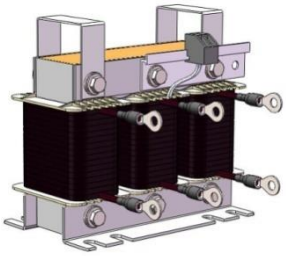
- Reactance（%）
- Capacity（kvar）
- Reactor Voltage（V）
- Coil Material
- Lafaelt Tuning Reactor



Production Specifications and dimensions

- Single phase reactor

Model	Adaptive capacitor capacity (kvar)	Reactance	System Voltage	Dimensions (L*W*H)			Installation size (E*F)	
LDR(S)280-6.7-7	6.7	7%	400	158	192	148	93	105
LDR(S)280-8.3-7	8.3	7%	400	158	192	148	93	105
LDR(S)280-10-7	10	7%	400	158	192	148	93	105
LDR(S)280-13.4-7	13.4	7%	400	185	210	162	115	110
LDR(S)280-15-7	15	7%	400	185	210	162	115	110
LDR(S)280-16.7-7	16.7	7%	400	185	210	162	115	110
LDR(S)280-20-7	20	7%	400	185	240	162	115	135
LDR(S)300-6.7-14	6.7	14%	400	185	210	162	115	110
LDR(S)300-8.3-14	8.3	14%	400	185	210	162	115	110
LDR(S)300-10-14	10	14%	400	185	240	162	115	135
LDR(S)300-13.4-14	13.4	14%	400	215	270	200	145	155
LDR(S)300-15-14	15	14%	400	215	270	200	145	155
LDR(S)300-16.7-14	16.7	14%	400	215	270	200	145	155
LDR(S)300-20-14	20	14%	400	215	270	200	145	155



■ Three phase reactor

Model	Adaptive capacitor capacity(kvar)	Reactance	System Voltage	Dimensions (L*W*H)			Installation Size (E*F)	
LDR(S)440-10-7	10	7%	400	215	170	200	170	100
LDR(S)440-15-7	15	7%	400	215	170	200	170	100
LDR(S)440-20-7	20	7%	400	215	170	200	170	100
LDR(S)440-25-7	25	7%	400	240	190	210	183	110
LDR(S)440-30-7	30	7%	400	240	190	210	183	110
LDR(S)440-40-7	40	7%	400	245	190	220	183	110
LDR(S)440-50-7	50	7%	400	290	210	270	200	115
LDR(S)440-60-7	60	7%	400	290	210	270	200	115
LDR(S)480-10-7	10	7%	400	215	170	200	170	100
LDR(S)480-15-7	15	7%	400	215	170	200	170	100
LDR(S)480-20-7	20	7%	400	215	170	200	170	100
LDR(S)480-25-7	25	7%	400	240	190	210	183	110
LDR(S)480-30-7	30	7%	400	240	190	210	183	110
LDR(S)480-40-7	40	7%	400	245	190	220	183	110
LDR(S)480-50-7	50	7%	400	290	210	235	200	115
LDR(S)480-60-7	60	7%	400	290	210	270	200	115
LDR(S)525-15-14	15	14%	400	240	190	210	183	110
LDR(S)525-20-14	20	14%	400	290	210	235	200	115
LDR(S)525-25-14	25	14%	400	290	210	235	200	115
LDR(S)525-30-14	30	14%	400	290	210	235	200	115
LDR(S)525-40-14	40	14%	400	300	240	300	210	145
LDR(S)525-50-14	50	14%	400	300	240	300	210	145
LDR(S)525-60-14	60	14%	400	300	240	300	210	145
LDR(S)850-25-7	25	7%	690	290	210	235	200	115
LDR(S)850-30-7	30	7%	690	290	210	235	200	115
LDR(S)850-50-7	50	7%	690	300	240	300	210	145
LDR(S)850-60-7	60	7%	690	300	240	300	210	145

■ Split phase reactor

Model	Adaptive capacitor capacity (kvar)	Reactance	System Voltage	Dimensions (L*W*H)			Installation Size (E*F)	
LDR(S)280-20-7F	6.7	7%	400	263	168	184	219	95

LDR(S)280-30-7F	10	7%	400	278	174	204	235	100
LDR(S)280-40-7F	13.4	7%	400	296	183	211	252	105
LDR(S)280-45-7F	15	7%	400	330	195	221	286	115
Model	**Adaptive capacitor capacity(kvar)**	**Reactance**	**System Voltage**	**Dimensions (L*W*H)**			**Installation Size (E*F)**	
LDR(S)280-50-7F	16.7	7%	400	330	195	221	286	115
LDR(S)280-60-7F	20	7%	400	330	195	256	286	115

Product Acceptance

- We do not assume any responsibility for the loss or damage of the goods caused by the carrier, please negotiate with the carrier for any complaints.
- Unpack the product at the installation site.
- Make sure that the product is not subject to impact or deformation.
- Check that there are no missing parts in the product, and that the product has not been subjected to impacts that could cause damage insulation or malfunction.
- Check that the electrical parameters on the product label are consistent with the ordered product.
- If there is any discrepancy, please attach a description to feed back to us.

Storage

- The products should be stored in a dry and well-ventilated environment, protected from rain, water, free of chemicals and dust.
- Wrap or cover the product to provide effective protection from dust, debris, paints, etc.
- The storage temperature: -20℃ ~ 60℃.
- The reactors need to be inspected after storage.

Warning

- Reactors cannot be installed in places that may be flooded.
- No special protection measures are required; the product packaging has provided the necessary protection in general, since the product does not

contain liquid electrolytes, will not be damaged by heat or cold, and has no special fire protection requirements.

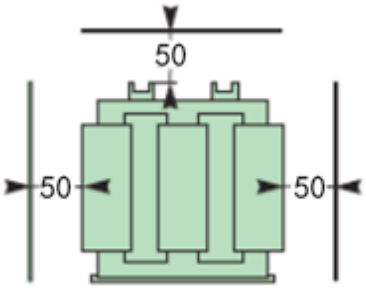
Ventilation

Application scope: the ambient temperature around the power distribution cabinet meets the requirement of IEC60439-1

- Maximum temperature: 40℃
- Average temperature of 24 hours: 35℃
- Annual average temperature: 25℃

Installation Requirements

- Since the temperature of reactor is much higher than that of capacitor, when the reactors and capacitors are installed in the same cabinet, they should be installed in layer, and the capacitors must in the lower level, and the interlayer spacing is not less than 100mm. If they must be installed on the same floor, the vertical capacitors and reactors should be installed separately, and the minimum distance between them should not be less than 100mm. Install isolation plates if necessary.
- Since capacitors and reactors have secondary protection function, if multiple capacitors in the same circuit are connected in parallel and then connected in series with the reactors, all the secondary protection terminals of the capacitors in this circuit are connected in series and then connected in series with the secondary protection terminals of the reactors.



- The minimum installation distance between two reactors should not be less than 50mm.
- The series reactor has a 125℃ normally closed temperature switch, which is connected in series with the secondary protection terminal of the capacitor in the control circuit, and serves as an over-temperature protection for the reactor.

Electrical Wiring

- Before connecting all terminals of the power line connection, you should be familiar with the test report and the connection diagram on the nameplate, and the connection must be correct.
- The connection wire composed of cables or busbars must comply with the requirements of reactor operation regulations and electrical installation regulations, and the cables and busbars with appropriate cross-selections should be selected.
- Connecting wires must not create excessive mechanical tension and moments on the terminals.
- The bolt connection must ensure sufficient contact pressure and butterfly washers or spring washers can be used.
- All coupling bolts and terminal blocks must be cleaned before wiring. All connections mush be fastened and reliable, and a torque wrench should be used to strength the electrical connection bolts, so that the tension of the bolts is relatively uniform and excessive tension can be avoided.

Refer to the Table1 for toque reference

Bolt Size	M6	M8	M10	M12
Toque（N.m）	≥8	≥12	≥24	≥42

Maintenance

- Personal Protection
  Power must be cut off before any maintenance work on the device.
- Check
  Please check the tightness situation of the reactor terminal after one month of use.
  Once a year, check the following:
  ① General product cleaning.
  ② Ventilation and filtration system.
  ③ Tightness of electrical wire terminals.
  ④ Reactor Status.

⑤ Ambient temperature and humidity at the installation site.

After-sale Service

The products of our company are guaranteed for 1 year, and the warranty period starts from the date of product sale. If the product faults or the parts are damaged during the warranty period, our company will provide free maintenance after it is identified by our technicians as occurring under normal use.

In the following cases, material costs and maintenance man-hours will be charged:

- Damage caused by not following the instructions in the manual
- Damage caused by unauthorized desoldering of parts or modification
- The operation exceeds the “Three Guarantees” period

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