ASY Electronics (Jiaxing) Co., Ltd

Business inquiries：+86 181 5734 3325

E-mail：sales@king-sen.com Website：www.asyjx.com

Address：Room 302, Building 11, No. 79 Jinsui Road, Economic and Technological Development Zone, Jiaxing , Zhejiang P.R. China

AC3804D Series Three-Phase Four-Wire Isolation Filter

Features

- Rated current up to 200A
- Compact high performance bipolar three-phase four-wire filter
- Excellent filtering and isolation effects
- Good interference suppression characteristics and EMC solutions
- Various wiring options available：bolt，copper，terminal block
- Suitable for industrial applications with severe interference
- Safety certification

Application

- Power filters are suitable for three-phase, four-wire power carriers.， not only can it effectively filter out the impact of interference on the power line on the power carrier，and it can isolate the carrier signal，it has secondary filtering effect.
- Isolation filters can resolve issues such as overvoltage, overcurrent, overload, overheating, false tripping, and failure to trip caused by harmonics and surges in the power grid affecting load equipment.
- The isolation filter is connected in series on the power line, installed on the outer side of the power line carrier.Used to isolate and prevent the impact of grid loads on equipment and interference with power line carrier communications.
- Suitable for most industrial settings with significant interference, such as motor drives and industrial equipment.

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Technical conditions (Ratings and Values)

Rated Voltage	380/440VAC
Operating frequency	50/60Hz
Rated Current	10~200A (Above 50A can be customized)
Filter Range	10KHz~30MHz
Hi-pot Test	1750VD 2sec(Line to Line) 2650VD 2sec(Line to Ground)
Climatic Category	25/085/21 (-25°C to +85°C)
Relevant Design Standards	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939

Electrical Schematic

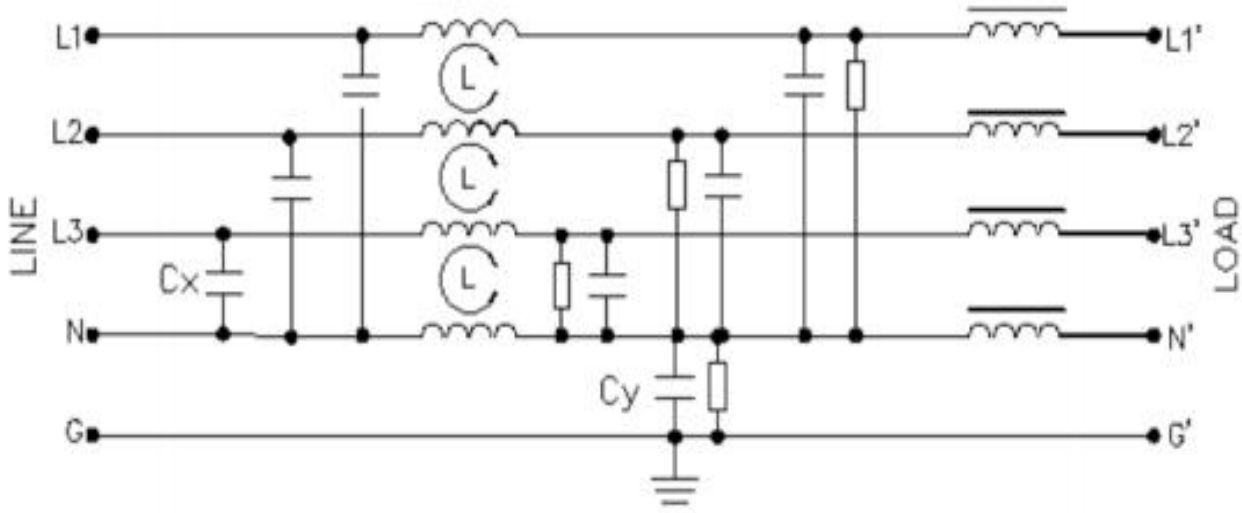

Fig 1

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Type Selection Table

Item No.	Rated current(A)	Leak current(≤ mA)	Circuit diagram	Shape size	Outgoing terminal mode -T	-S
AC3804D-10A-T	10	5	Fig 1	H	M4	M4
AC3804D-20A-T	20	5	Fig 1	H	M4	M4
AC3804D-30A-T	30	5	Fig 1	N5	M6	M4
AC3804D-50A-T	50	10	Fig 1	N5	M6	
AC3804D-80A-T	80	20	Fig 1	N10	M8/M10	
AC3804D-100A-T	100	20	Fig 1	N10	M8/M10	
AC3804D-120A-T	120	40	Fig 1	N12	M10	
AC3804D-150A-T	150	40	Fig 1	N12	M10	
AC3804D-200A-T	200	60	Fig 1	N12	M10	

Remark:

1. Selection method of filter: Calculate the maximum load current value of the power line,multiply by 1.5 times, the corresponding value is the filter current value.

2. Default wiring method: bolts or terminal blocks. Alternative wiring methods can be customised upon request, such as: wires, copper busbars, etc.

3. Isolation filters are specialised filters for power line carrier communication, customisable to meet carrier communication requirements, with a maximum current rating of 250A.

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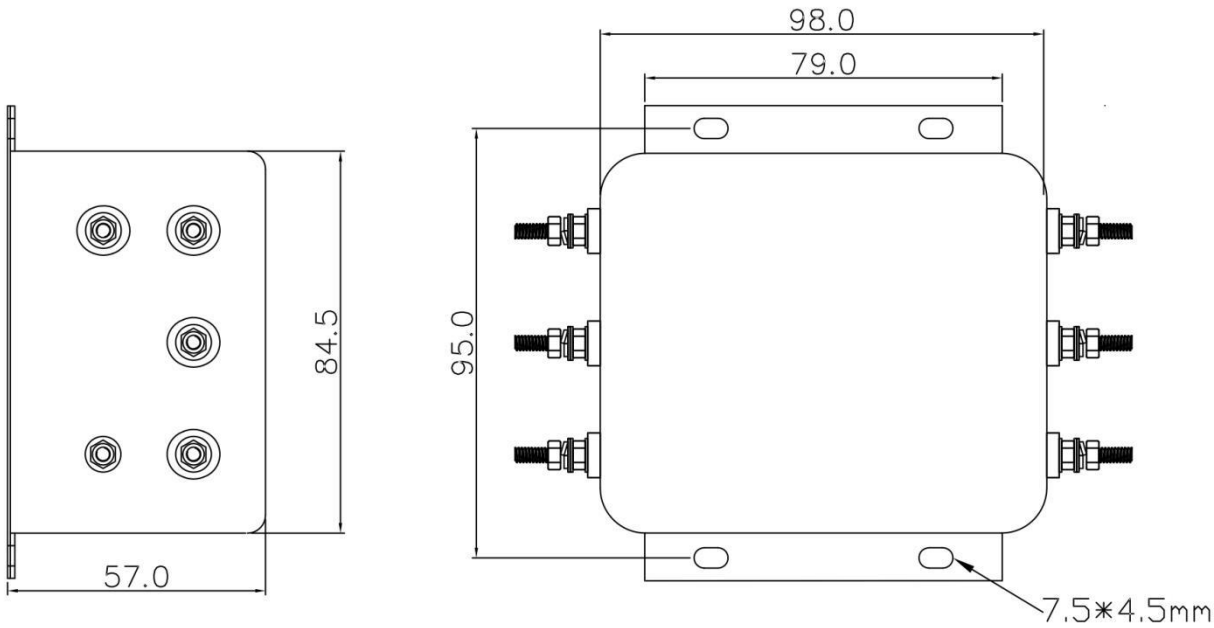
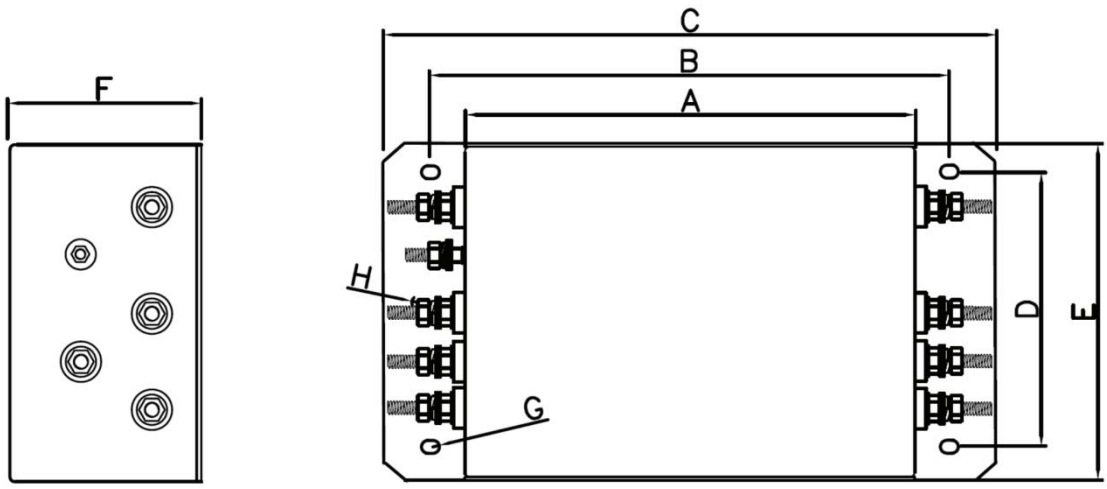
Outline Dimensions(mm)

Bolt (T)



H



	A	B	C	D	E	F	G	H
N2	110	125	140	70.0	93	56	5.3*7	M4
N5	150	168	186	85.0	105	60	6.4*9	M6
N10	200	220	240	100.0	120	80	6.4*9	M8/M10
N12	260	286	314	140.0	170	107	8.8*14	M8/M10

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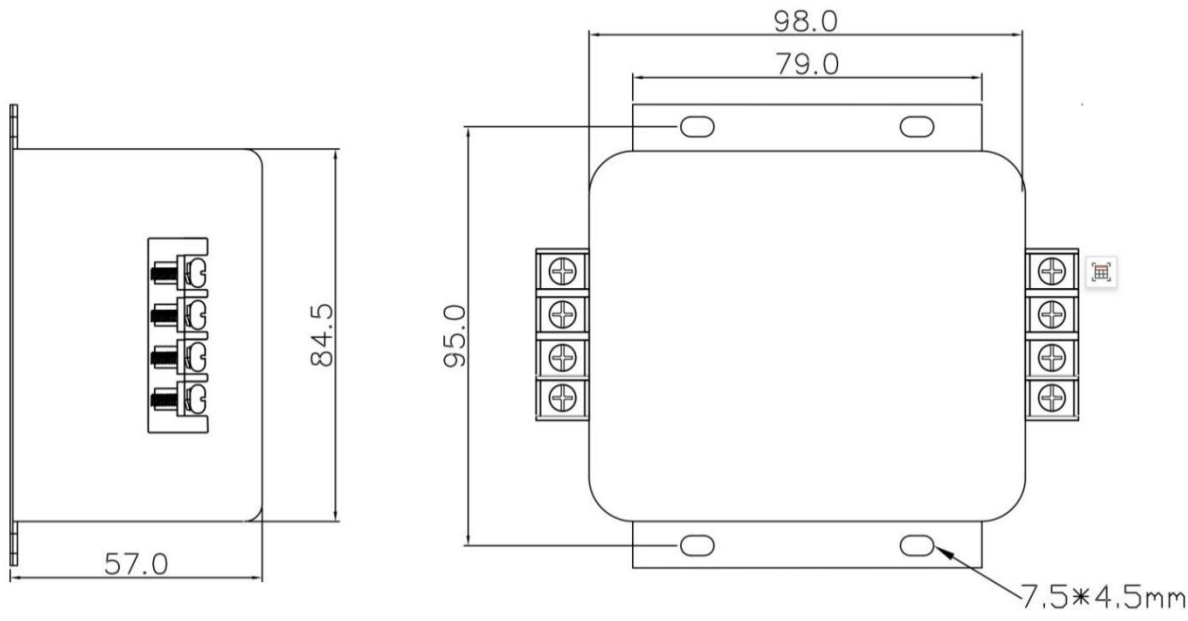
Terminal block (S)



Wiring method

In practical power carrier applications，there will be large loads on the power lines，for example, regulated power supplies, inverters, servos, large capacitors, inductive loads, etc，these can have a large absorption effect on the high frequency signals of broadband power carriers.To avoid degradation of power carrier performance，to achieve the desired power carrier effect，it is highly recommended to install special power filters at both ends of the power line，impedance wave isolation is performed on the interference source.

Connection method of power filter in series on power line：

1. Main Control Cabinet: The output terminals of the main circuit breaker are connected in series with the input terminals (LINE) of the isolation filter, while the output terminals (LOAD) serve as the power supply output. The broadband carrier is connected in parallel to the output terminals (LOAD) of the isolation filter.

2. Electrical Control Sub-Cabinet: The output terminal (LOAD) of the isolation filter at the electrical control sub-cabinet end serves as the power input, connected in series with the output terminal (LOAD) of the filter at the electrical control main cabinet end. The input terminal (LINE) functions as the power output, connected in series with the load equipment. The broadband carrier is connected in parallel to the output terminal (LOAD) side of the isolation filter.

The three-phase power filter wiring diagram is as follows：

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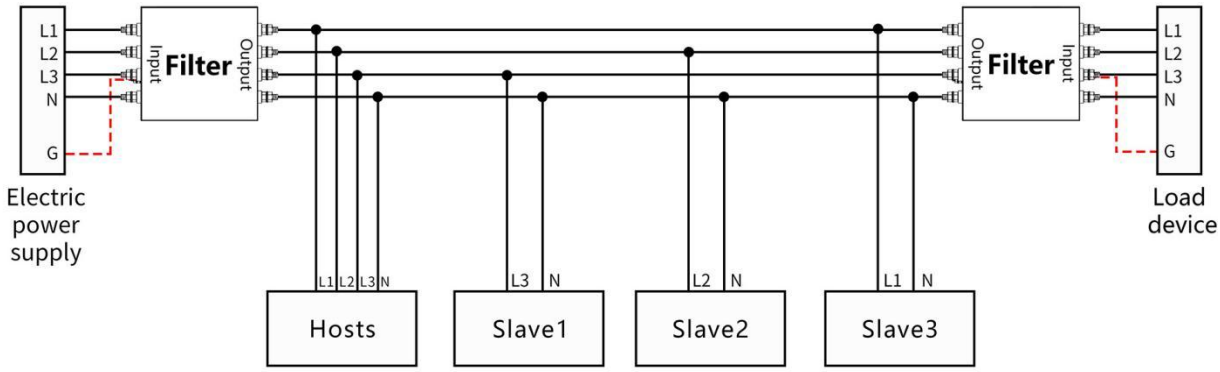

Notice:

1. The isolation filter serves as a dedicated isolator for power line carrier applications. Its wiring requires directional distinction: the power supply for isolation filters in the main electrical control cabinet flows from input to output, whereas for isolation filters in sub-control cabinets, the power supply flows from output to input. Isolation filters in sub-control cabinets must be wired in reverse, with the output terminal connected to the power supply input and the input terminal connected to the load.

2. Isolation filters shall be fitted externally to all broadband carrier units. Broadband carrier units shall be connected in parallel across the power lines at the outputs of the isolation filters; isolation filters shall not be fitted between carrier units.

3. All loads on the power line carrier circuit should be fitted with isolation filters to ensure broadband carrier communication operates over clean power lines.

4. The isolator should be installed as close as possible to the power cable entry point and the load end to filter out electromagnetic interference entering and escaping along the power cable.

5. The input and output lines of the isolation filter should be spaced apart; they must not be routed in parallel or cross each other, to avoid compromising the filtering performance.

6. The earth connection for isolation filters must not be left floating; it must be connected to an earth wire or to the metal casing. The earth connection should be as short as possible.

7. Danger of electric shock: Never operate while energised; never touch the terminals directly. The isolation filter contains energy-storage components; hazardous voltages may persist for up to 10 seconds after disconnection.

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