

EMI Power Filter

Innovation, Value, Teamwork



SHENZHEN INVT ELECTRIC CO., LTD.

Address: No.4 Building, Gaofa Industrial Park, Longjing, Nanshan District,
Shenzhen, Guangdong, China.

TEL: +86 755 86312834

FAX: +86 755 86312832

Email: overseasales@invt.com.cn

Website: www.invt.com

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201204(V2.0)



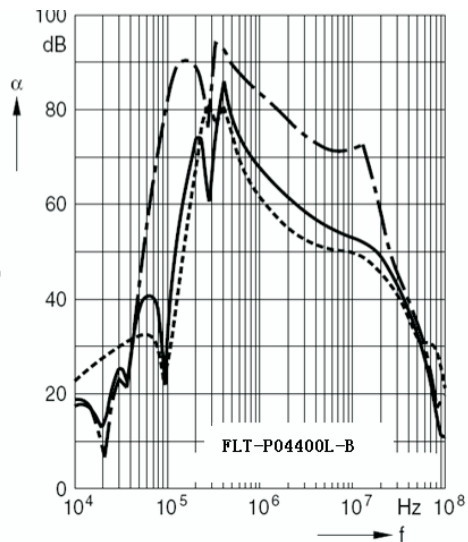
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Technical Features

High insertion loss

Insertion loss, which reflects the interference reduction capacity to various high-frequency signals, is the key parameter for filters.



Insertion loss (Typical value $Z=50\Omega$)

- Insertion loss
- Insertion loss in common-mode
- Insertion loss in differential-mode

Low leakage current

Applying low leakage current topology, better environment adaptability and completed test verification.

Grounding

Two grounding modes for different power system.

PCB board design

Apply PCB board to ensure stable performance.

Full Load test

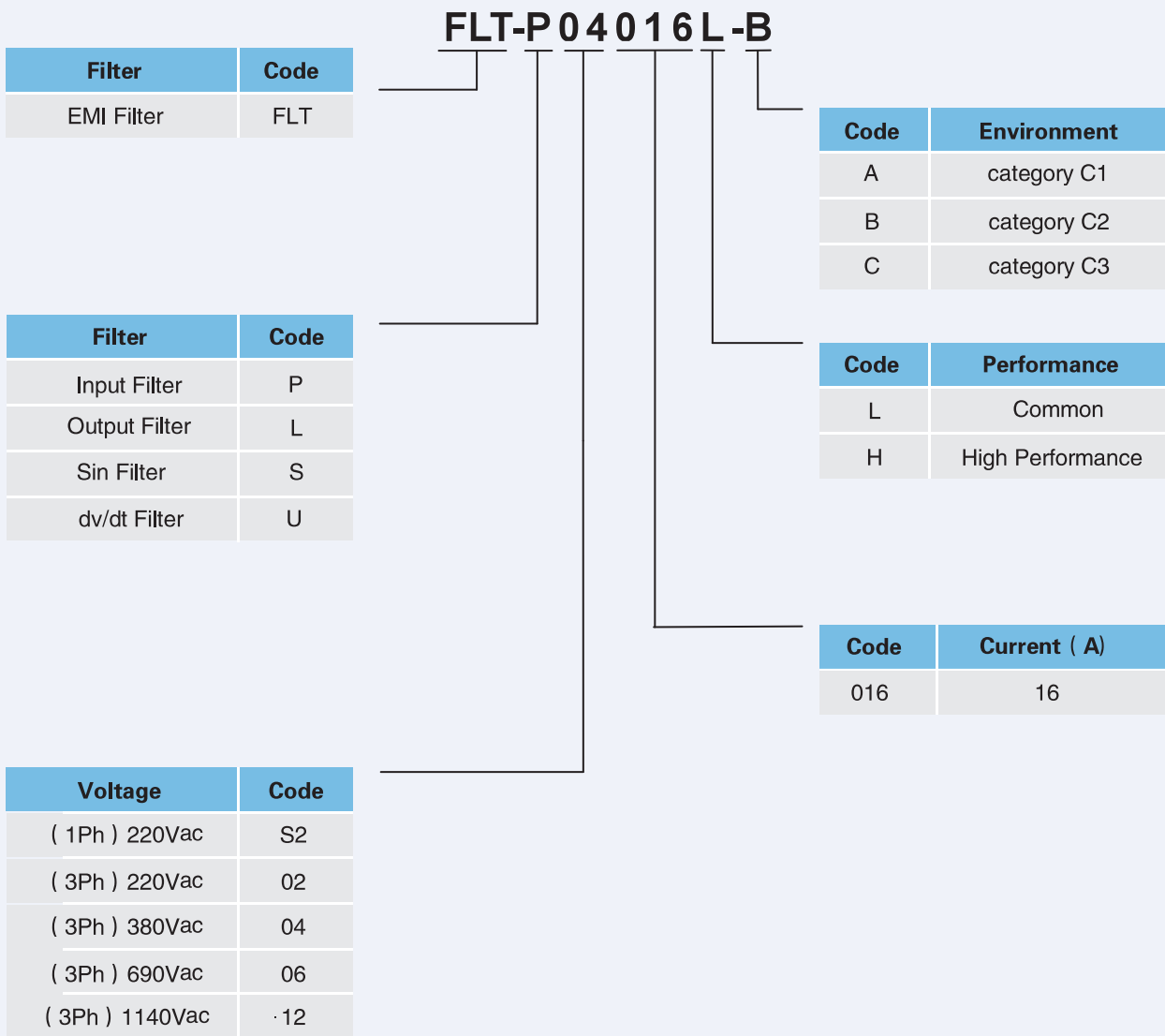


Pass the inverter test with full load and non-load.

Really Set up picture

Product description and selection

Product model



Filter selection

PCB-Filter

Input Filter	Order Num.	Output Filter	Order Num	Inverter
FLT-PS2003H-A-PCB	1-04-08-610	FLT-LS2003H-A-PCB	1-04-35-850	(1Ph) 220VAC/3A
FLT-PS2010H-A-PCB	1-04-08-600	FLT-LS2010H-A-PCB	1-04-35-860	(1Ph) 220VAC/10A
FLT-P04006L-B-PCB	1-04-08-660	FLT-L04006L-B-PCB	1-04-35-870	CHF100A-0R7G-4
				CHF100A-1R5G-4
				CHF100A-2R2G-4
FLT-P04016L-B-PCB	1-04-08-630	FLT-L04016L-B-PCB	1-04-35-880	CHF100A-004G/5R5P-4
				CHF100A-5R5G-4
FLT-P04032L-B-PCB	1-04-08-640	FLT-L04032L-B-PCB	1-04-35-820	CHF100A-7R5P-4
				CHF100A-7R5G/011P-4
				CHF100A-011G-4

Single phase 220VAC Filter selection

Input Filter	Output Filter	Current (A)	Inverter
FLT-PS2003H-A	FLT-LS2003H-A	3	For sophisticated device 220Vac Power filter
FLT-PS2010H-A	FLT-LS2010H-A	10	

Three-phase 400VAC Filter selection

Input Filter	Order Num	Current (A)	Inverter	
FLT-P04006L-B	2-68-15-006	6	CHF100A-1R5G-4	CHF100A-1R5P-4
			CHF100A-2R2G-4	CHF100A-2R2P-4
FLT-P04016L-B	2-68-15-016	16	CHF100A-004G-4	CHF100A-004P-4
			CHF100A-5R5G-4	CHF100A-5R5P-4
FLT-P04032L-B	2-68-15-032	32	CHF100A-7R5G-4	CHF100A-7R5P-4
			CHF100A-011G-4	CHF100A-011P-4
FLT-P04045L-B	2-68-15-045	45	CHF100A-015G-4	CHF100A-015P-4
			CHF100A-018G-4	CHF100A-018P-4
FLT-P04065L-B	2-68-15-065	65	CHF100A-022G-4	CHF100A-022P-4
			CHF100A-030G-4	CHF100A-030P-4
FLT-P04100L-B	2-68-15-100	100	CHF100A-037G-4	CHF100A-037P-4
			CHF100A-045G-4	CHF100A-045P-4
FLT-P04150L-B	2-68-15-150	150	CHF100A-055G-4	CHF100A-055P-4
			CHF100A-075G-4	CHF100A-075P-4
FLT-P04240L-B	2-68-18-240	240	CHF100A-090G-4	CHF100A-090P-4
			CHF100A-110G-4	CHF100A-110P-4
FLT-P04400L-B	2-68-15-400	400	CHF100A-132G-4	CHF100A-132P-4
			CHF100A-160G-4	CHF100A-160P-4
FLT-P041000L-B	2-68-15-102	1000	CHF100A-200G-4	CHF100A-200P-4
			CHF100A-500G-4	CHF100A-500P-4

Three-phase 660/1140VAC Filter selection

Input Filter	Order Num	Current (A)	Inverter
FLT-P12050H-B	2-68-21-050	50	CHV100-037G-12~CHV100-055G-12
	2-68-33-050		CHV100-018G-06~CHV100-037G-06
FLT-P12100H-B	2-68-21-100	100	CHV100-075G-12~CHV100-132G-12
	2-68-33-100		CHV100-045G-06~CHV100-090G-06
FLT-P12200H-B	2-68-21-185	200	CHV100-160G-12~CHV100-300G-12
	2-68-33-200		CHV100-110G-06~CHV100-185G-06
FLT-P12300H-B	2-68-21-300	300	CHV100-315G-12~CHV100-400G-12
	2-68-23-300		CHV100-200G-06~CHV100-250G-06
FLT-P12400H-B	2-68-21-400	400	CHV100-500G-12~CHV100-630G-12
	2-68-33-400		CHV100-280G-06~CHV100-350G-06
FLT-P121000H-B	2-68-33-101	1000	CHV100-400G-06~CHV100-630G -06

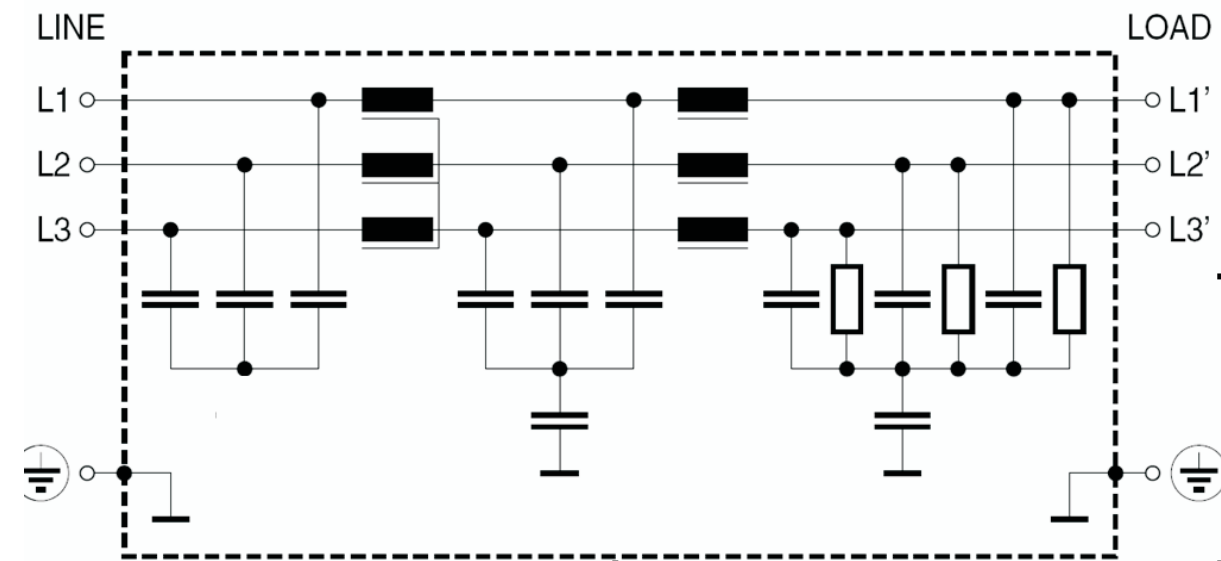
Three-phase 400VAC output Filter selection

Output Filter	Order Num	Current (A)	Inverter	
FLT-L04006L-B	2-68-28-006	6	CHF100A-1R5G-4	CHF100A-1R5P-4
			CHF100A-2R2G-4	CHF100A-2R2P-4
FLT-L04016L-B	2-68-28-016	16	CHF100A-004G-4	CHF100A-004P-4
			CHF100A-5R5G-4	CHF100A-5R5P-4
FLT-L04032L-B	2-68-28-032	32	CHF100A-7R5G-4	CHF100A-7R5P-4
			CHF100A-011G-4	CHF100A-011P-4
FLT-L04045L-B	2-68-28-045	45	CHF100A-015G-4	CHF100A-015P-4
			CHF100A-018G-4	CHF100A-018P-4
FLT-L04065L-B	2-68-28-065	65	CHF100A-022G-4	CHF100A-022P-4
			CHF100A-030G-4	CHF100A-030P-4
FLT-L04100L-B	2-68-28-100	100	CHF100A-037G-4	CHF100A-037P-4
			CHF100A-045G-4	CHF100A-045P-4
FLT-L04150L-B	2-68-28-150	150	CHF100A-055G-4	CHF100A-055P-4
			CHF100A-075G-4	CHF100A-075P-4
FLT-L04240L-B	2-68-28-240	240	CHF100A-090G-4	CHF100A-090P-4
			CHF100A-110G-4	CHF100A-110P-4
			CHF100A-132G-4	CHF100A-132P-4
FLT-L04400L-B	2-68-28-400	400	CHF100A-160G-4	CHF100A-160P-4
			CHF100A-200G-4	CHF100A-200P-4
			CHF100A-400G-4	CHF100A-400P-4
FLT-L041000L-B	2-68-28-101	1000	CHF100A-500G-4	CHF100A-500P-4

Three-phase 660/1140VAC output Filter selection

Output Filter	Order Num	Current (A)	inverter
FLT-L12050H-B	2-68-26-050	50	CHV100-037G-12~CHV100-055G-12
	2-68-36-050		CHV100-018G-06~CHV100-037G-06
FLT-L12100H-B	2-68-26-100	100	CHV100-075G-12~CHV100-132G-12
	2-68-36-100		CHV100-045G-06~CHV100-090G-06
FLT-L12200H-B	2-68-23-162	200	CHV100-160G-12~CHV100-300G-12
	2-68-36-200		CHV100-110G-06~CHV100-185G-06
FLT-L12300H-B	2-68-26-300	300	CHV100-315G-12~CHV100-400G-12
	2-68-36-300		CHV100-200G-06~CHV100-250G-06
FLT-L12400H-B	2-68-26-400	400	CHV100-500G-12~CHV100-630G-12
	2-68-36-400		CHV100-280G-06~CHV100-350G-06
FLT-L121000H-B	2-68-36-101	1000	CHV100-710G-12~and above CHV100-400G-06~CHV100-630G -06

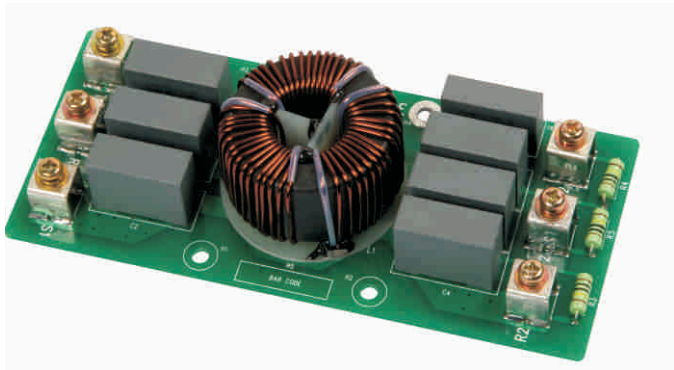
Filter schematic



Typical topological graph

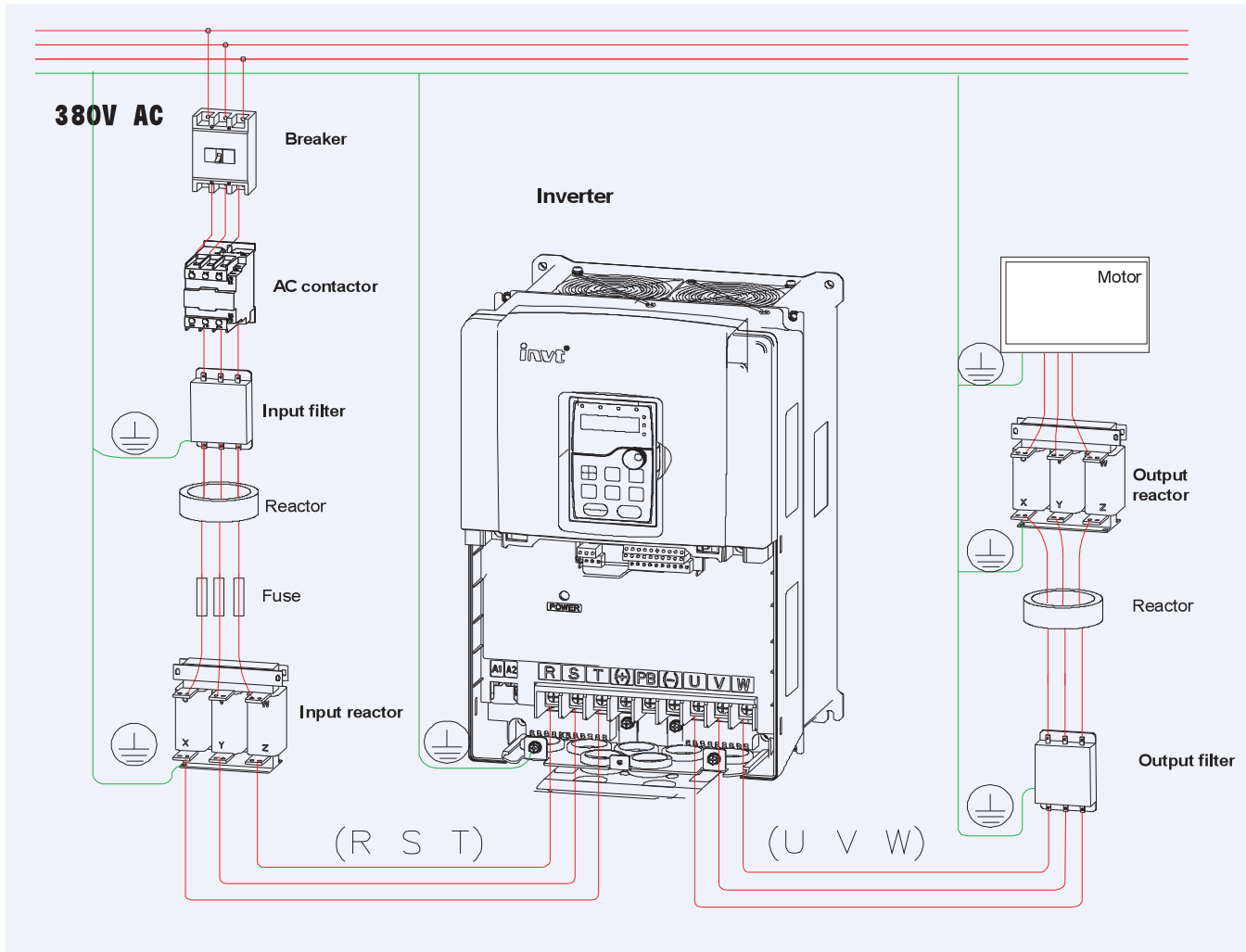


Filters graph



PCB-Filter

Diagram



Filter size

Voltage	Model	L (mm)	L1 (mm)	L2 (mm)	W (mm)	W1 (mm)	H (mm)	Weight (kg)	Hole size	Figure No.	Wiring			
(1Ph) 220V	FLT-PS2003H-A	150	129	138	64	40	42	0.5	a	A	Terminal			
	FLT-LS2003H-A													
	FLT-PS2010H-A	180	158	167	70	40	47	1.0						
	FLT-LS2010H-A													
(3Ph) 400V	FLT-P04006L-B	201	164	185	80	65	55	1.5	b	A	Terminal			
	FLT-L04006L-B													
	FLT-P04016L-B	233	196	216	87	65	61	2.5						
	FLT-L04016L-B													
	FLT-P04032L-B	222	185	204	105	76	94	3.5	c					
	FLT-L04032L-B													
	FLT-P04045L-B	260	213	243	110	90	104	4.0						
	FLT-L04045L-B													
	FLT-P04065L-B	310	265	294	125	90	111	4.5						
	FLT-L04065L-B													
	FLT-P04100L-B	301	265	240	143	102	106	9	d	D				
	FLT-L04100L-B													
	FLT-P04150L-B	330	290	268	163	104	140	9	d	C				
	FLT-L04150L-B													
	FLT-P04240L-B	483	386	286	220	200	126	11		B				
	FLT-L04240L-B													
	FLT-P04400L-B	590	540	508	263	196	210	34	e	C	Copper bars			
	FLT-L04400L-B	480	430	398	263	196	210	32						
	FLT-P04600L-B	570	520	488	230	120	145	27						
	FLT-L04600L-B	480	430	398	230	120	145	22						
	FLT-P04800L-B	570	520	488	230	120	145	27						
	FLT-L04800L-B	480	430	398	230	120	145	22						
	FLT-P041000L-B	570	520	488	230	120	145	27						
	FLT-L041000L-B	480	430	398	230	120	145	22						
(3Ph) 660V	FLT-P06050H-B	450	353	378	183	122	111	11				e	A	Copper bars
	FLT-L06050H-B							12						
	FLT-P06100H-B	455	415	383	230	110	150	18						
	FLT-L06100H-B	405	365	365	203	110	150	14						
	FLT-P06200H-B	570	520	488	233	116	145	21						
	FLT-L06200H-B	480	430	398	233	116	145	19						
	FLT-P06300H-B	520	480	448	233	116	200	26						
	FLT-L06300H-B	470	430	398	233	110	200	23						
	FLT-P06400H-B	590	540	508	263	196	210	34						
	FLT-L06400H-B	480	430	398	263	196	210	32						
	FLT-P06600H-B	570	520	488	230	120	145	27						
	FLT-L06600H-B	480	430	398	230	120	145	22						
	FLT-P06800H-B	570	520	488	230	120	145	27						
	FLT-L06800H-B	480	430	398	230	120	145	22						
	FLT-P061000H-B	570	520	488	230	120	145	27						
	FLT-L061000H-B	480	430	398	230	120	145	22						

Voltage	Model	L (mm)	L1 (mm)	L2 (mm)	W (mm)	W1 (mm)	H (mm)	Weight (kg)	Hole size	Figure No.	Wiring
(3Ph) 1140V	FLT-P12050H-B	450	353	378	183	122	111	11	e	A	Copper bars
	FLT-L12050H-B							12			
	FLT-P12100H-B	455	415	383	230	110	150	18		C	
	FLT-L12100H-B	405	365	365	203	110	150	14			
	FLT-P12200H-B	570	520	488	233	116	145	21			
	FLT-L12200H-B	480	430	398	233	116	145	19			
	FLT-P12300H-B	520	480	448	233	116	200	26			
	FLT-L12300H-B	470	430	398	233	110	200	23			
	FLT-P12400H-B	590	540	508	263	196	210	34			
	FLT-L12400H-B	480	430	398	263	196	210	32			
	FLT-P12600H-B	570	520	488	230	120	145	27			
	FLT-L12600H-B	480	430	398	230	120	145	22			
	FLT-P12800H-B	570	520	488	230	120	145	27			
	FLT-L12800H-B	480	430	398	230	120	145	22			
	FLT-P121000H-B	570	520	488	230	120	145	27			
	FLT-L121000H-B	480	430	398	230	120	145	22			

Hole size (OB) (unit: mm)

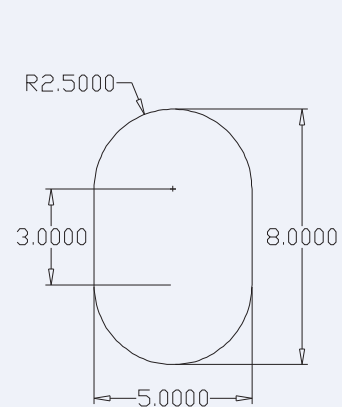


Figure A

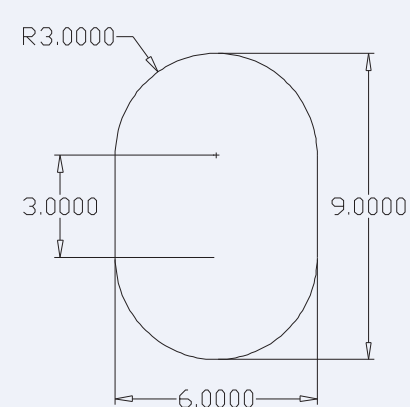


Figure B

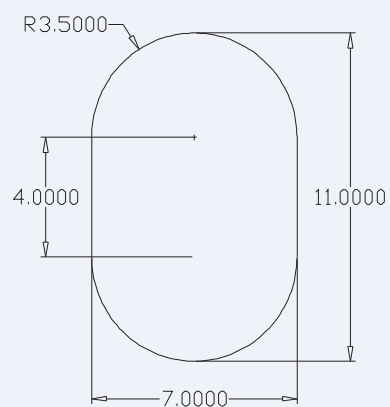


Figure C

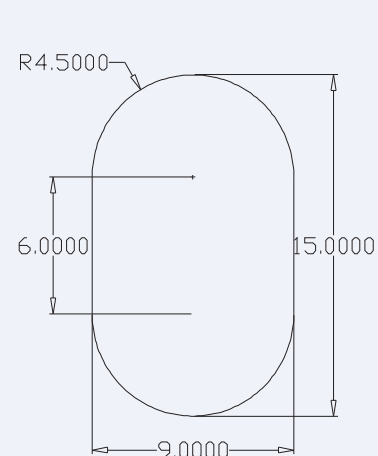


Figure D

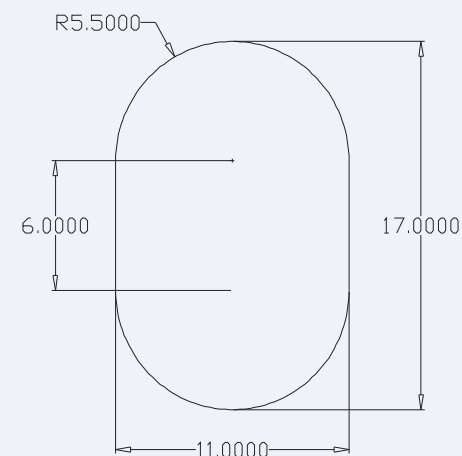


Figure E

External size

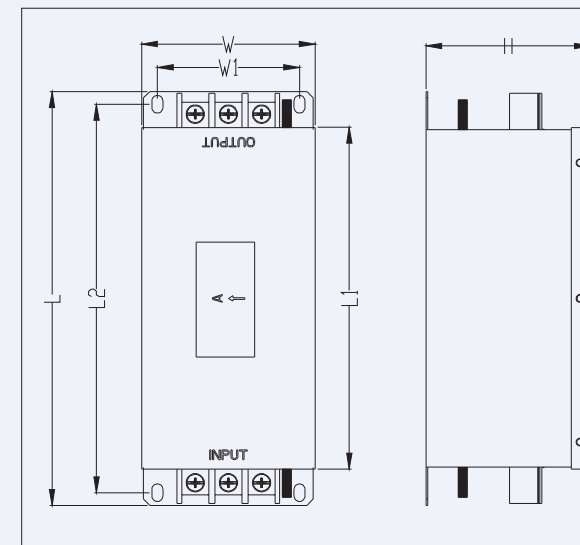


Figure A

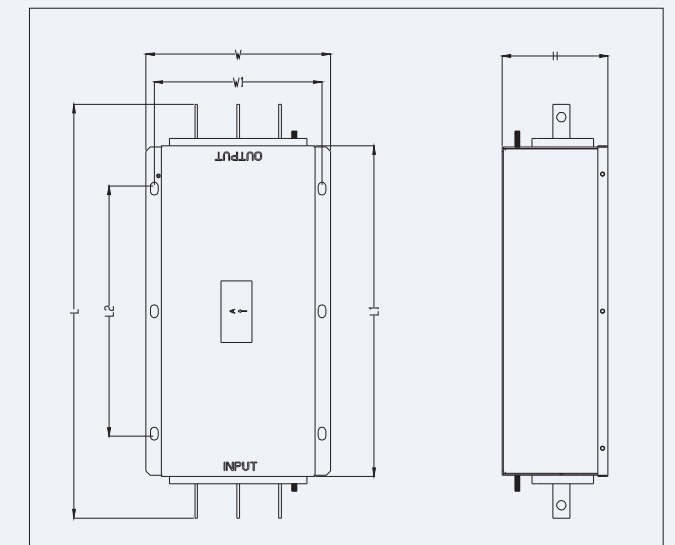


Figure B

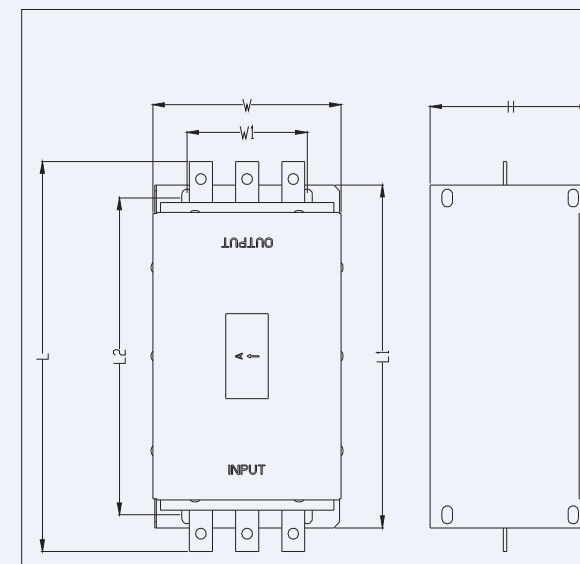


Figure C

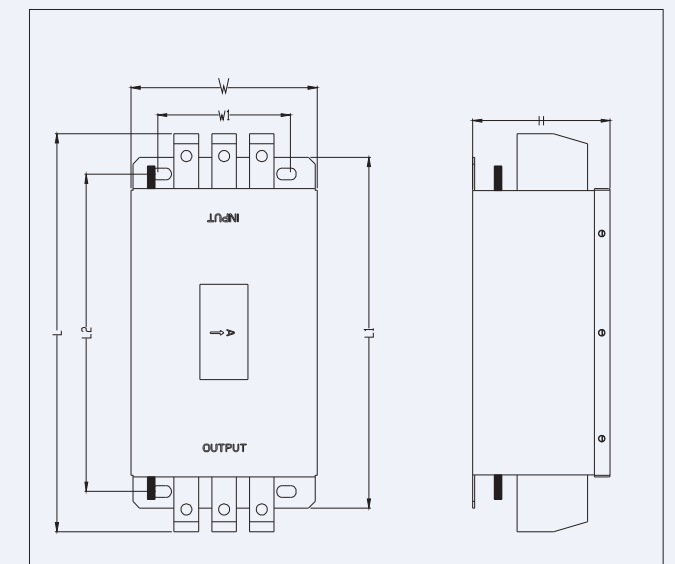
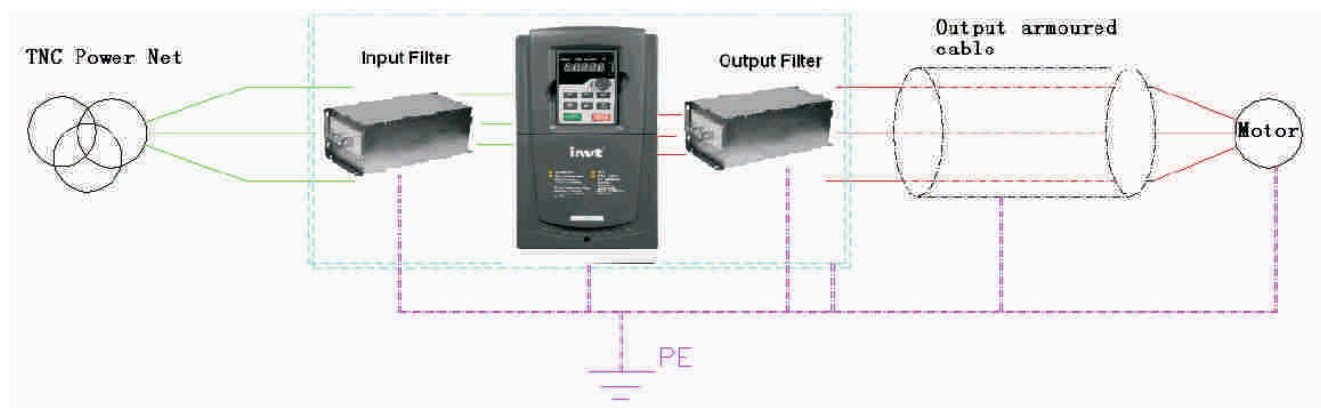


Figure D

Installation notes

- The filter is recommended to be used in TNC system.
- The input filter can not be used as output filter, and vice versa.
- The input and output of the filter can not be reversed.
- The wiring terminal of the filter needs to be connected well with the cable.
- The metal enclosure of the input filter and the enclosure of the inverter need to be tightly-grounded; otherwise the EMI performance will be impacted.
- The wiring cable of the filter needs to be short and thick enough
- The input and output cable of the filter can not be routed with overlap
- The input and output cable of the filter can not be routed in parallel with the control cables. But if long distance parallel route is avoidless, it is recommended to use twisted pairs.
- The input filter needs to be installed to the inlet of the metal chassis, but the output filter needs to be installed to the outlet of the metal chassis.

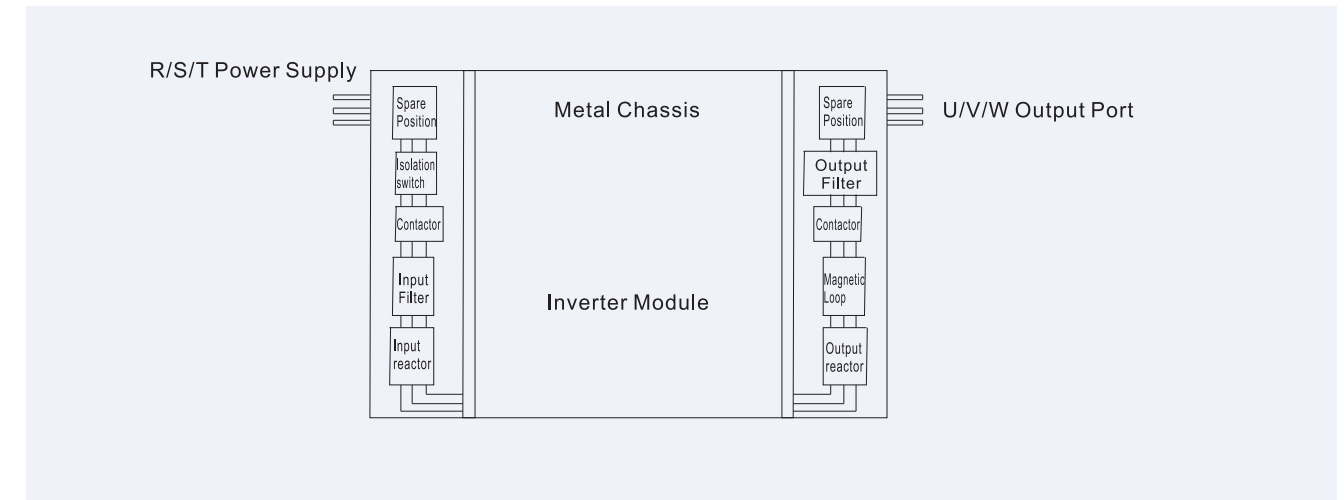


Ground connection

Typical solutions

Explosion-proof inverters Solution

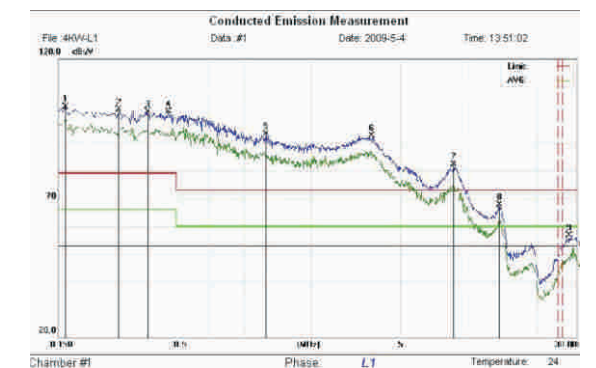
Internal layout



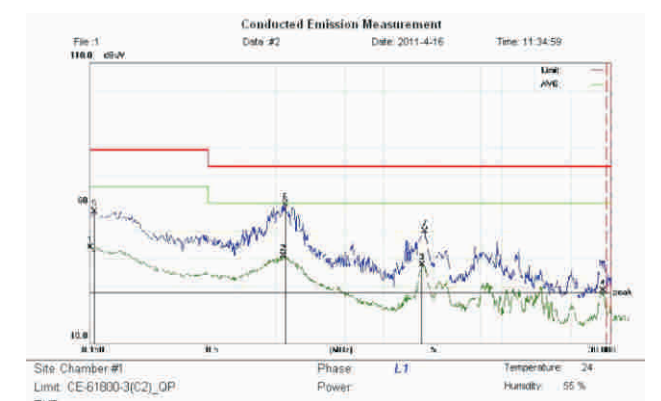
Internal picture



Test Site

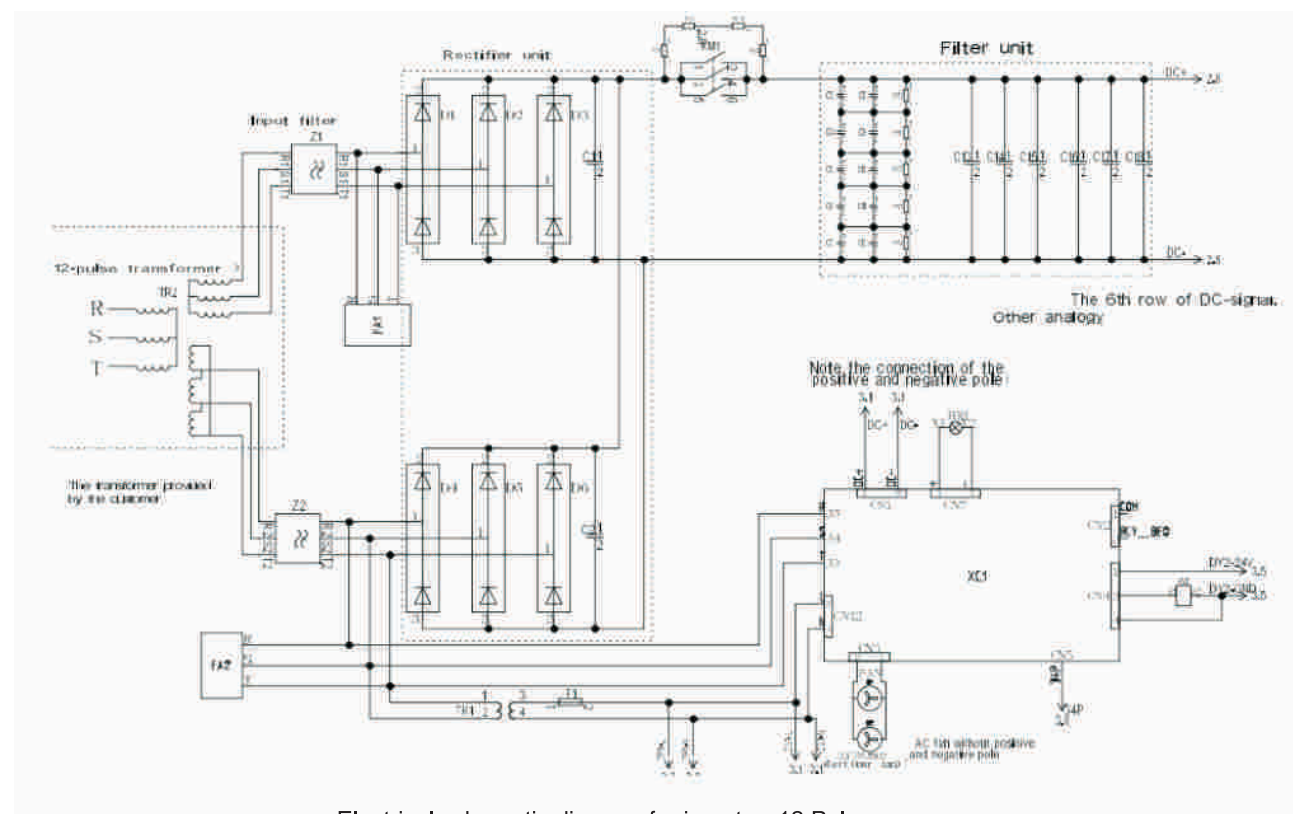


Before installing filter



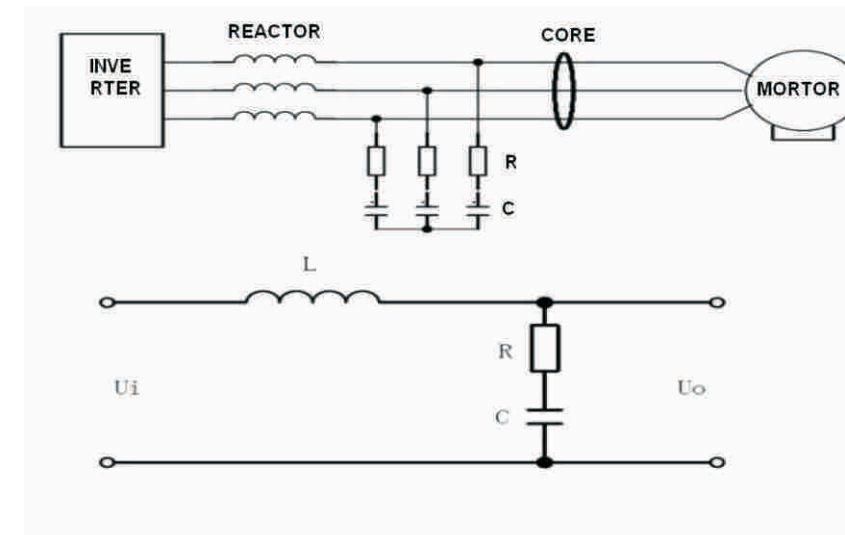
After installing filter

High protection inverter-12 Pulse

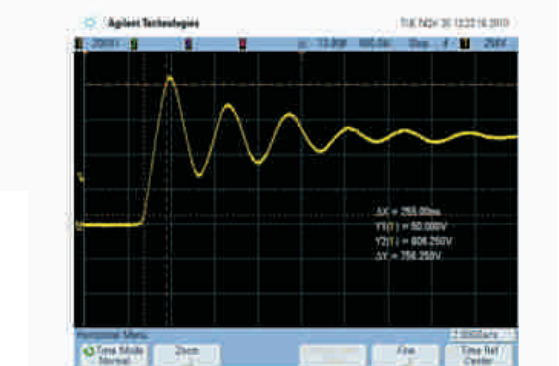
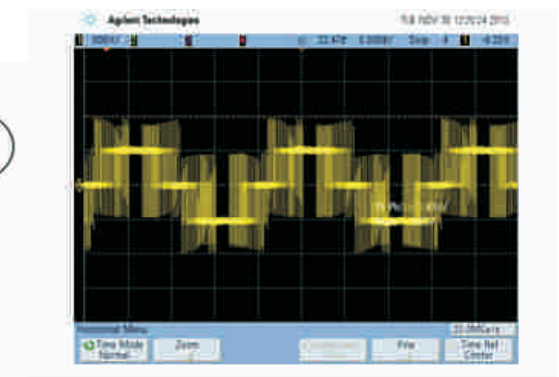


Electrical schematic diagram for inverter-12 Pulse

Integrated solutions of motor burning

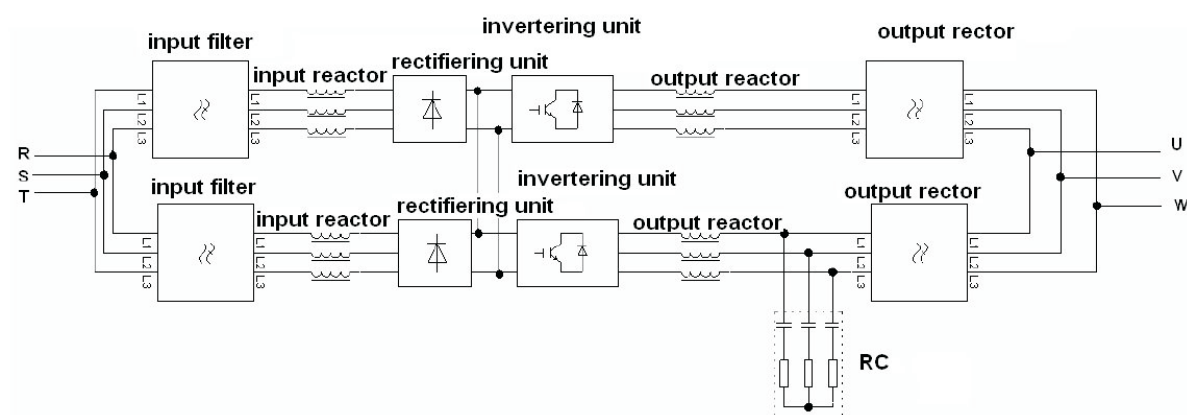


Electrical schematic diagram

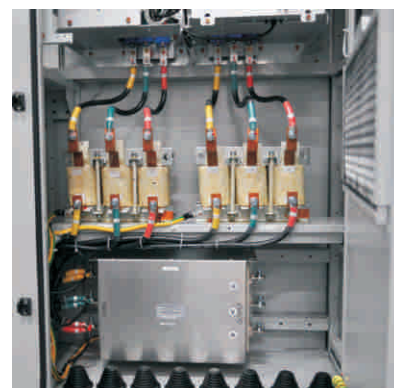


dv/dt=2965 v/us

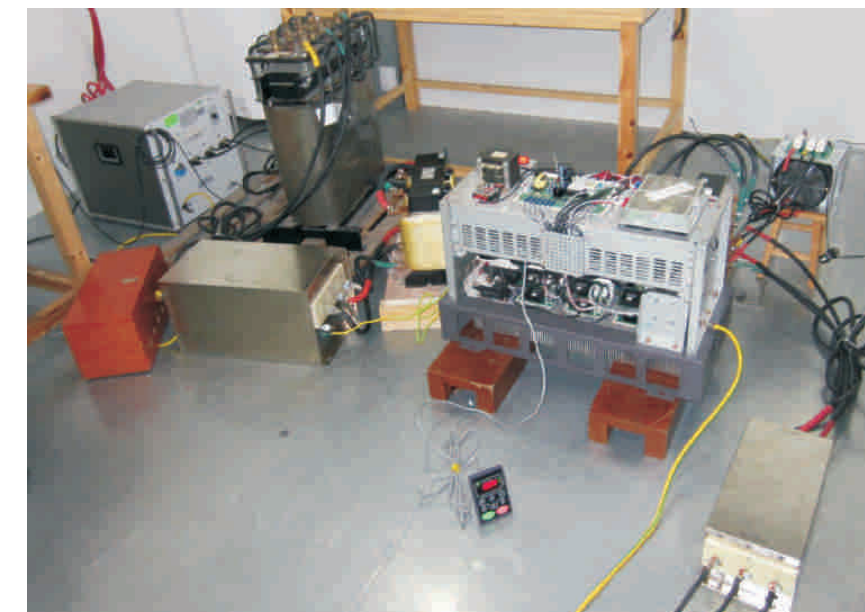
Before installing filter



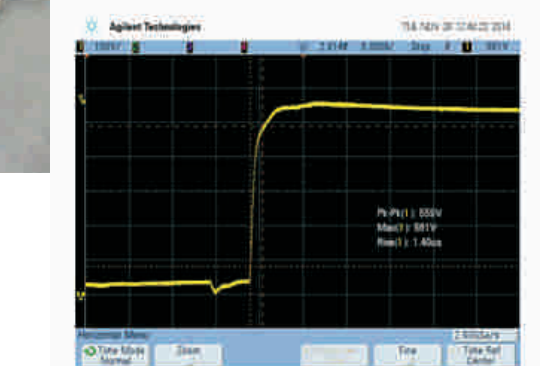
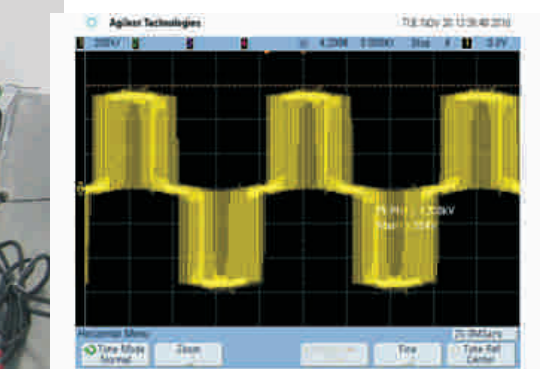
Connection diagram of parallel filters



Internal layout



Lab layout



dv/dt=401 v/us

After installing filter