

Power-One Aurora inverters:
Values of impedance at 175Hz

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SCOPE

Scope of the document is to provide the values of impedance at 175Hz of Power-One Aurora inverters.

APPLICATION AREA

The document refers to the inverters listed in the table in the following.

INTRODUCTION

In France the grid operator uses a data transmission method for feed-in tariff evaluation which is based on a 175Hz signal. The value of impedance at 175Hz is required to verify the compatibility of power converters could work in parallel with the grid.

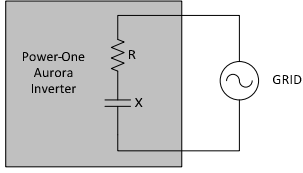
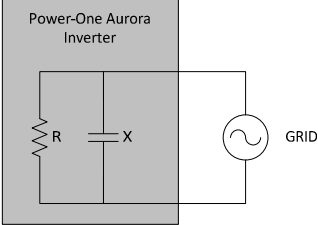
Single phase transformer-less string inverters				
Model	R-X Series Circuit		R-X Parallel Circuit	
	R [Ω]	X [Ω]	R [Ω]	X [Ω]
PVI-3.0-TL-OUTD(-S)	0.05	110	242000	110
PVI-3.6-TL-OUTD(-S) PVI-4.2-TL-OUTD(-S)	0.05	90	162000	90
PVI-5000-TL-OUTD(-S) PVI-6000-TL-OUTD(-S)	0.03	90	270000	90

Single phase high-frequency transformer isolated string inverters				
Model	R-X Series Circuit		R-X Parallel Circuit	
	R [Ω]	X [Ω]	R [Ω]	X [Ω]
UNO-2.0-I-OUTD	0.05	220	968000	220
UNO-2.5-I-OUTD	0.05	220	968000	220
PVI-3.8-I-OUTD(-S) PVI-4.6-I-OUTD(-S)	0.05	100	200000	100

Three phase transformer-less string inverters				
Model	R-X Series Circuit		R-X Parallel Circuit	
	R [Ω]	X [Ω]	R [Ω]	X [Ω]
PVI-10.0-TL-OUTD(-S)(-FS) PVI-12.5-TL-OUTD(-S)(-FS)	0.05	35	24500	35
TRIO-20.0-TL-OUTD(-S2)(-S2F)(-S2X)	0.017	66	256235	66
TRIO-27.6-TL-OUTD(-S2)(-S2F)(-S2X)	0.007	66	622285	66

Three phase high-frequency transformer isolated string inverters				
Model	R-X Series Circuit		R-X Parallel Circuit	
	R [Ω]	X [Ω]	R [Ω]	X [Ω]
PVI-10.0-I-OUTD(-S) PVI-12.0-I-OUTD(-S)	0.05	35	24500	35

"PLUS" series inverters				
Model	R-X Series Circuit		R-X Parallel Circuit	
	R [Ω]	X [Ω]	R [Ω]	X [Ω]
Transformerless version				
PVI-55.0-TL	0.005	18.19	66175	18.19
PVI-110.0-TL	0.0025	9.09	33051	9.09
PVI-165.0-TL	0.00167	6.06	21990	6.06
PVI-220.0-TL	0.00125	4.54	16489	4.54
PVI-275.0-TL	0.001	3.63	13176	3.63
PVI-330.0-TL	0.00083	3.03	11061	3.03
Integrated low frequency transformer version				
PVI-55.0	0.00781	28.42	103418	28.42
PVI-110.0	0.0039	14.21	51775	14.21
PVI-165.0	0.0026	9.47	34492	9.47
PVI-220.0	0.00195	7.1	25851	7.1
PVI-275.0	0.00156	5.68	20681	5.68
PVI-330.0	0.0013	4.73	17209	4.73

"PLUS HV" series inverters				
Model	R-X Series Circuit		R-X Parallel Circuit	
				
	R [Ω]	X [Ω]	R [Ω]	X [Ω]
Transformerless version				
PVI-67.0-TL	0.005	18.19	66175	18.19
PVI-134.0-TL	0.0025	9.09	33051	9.09
PVI-200.0-TL	0.00167	6.06	21990	6.06
PVI-267.0-TL	0.00125	4.54	16489	4.54
PVI-334.0-TL	0.001	3.63	13176	3.63
PVI-400.0-TL	0.00083	3.03	11061	3.03