Harmonic Amplitude/Phase-angle Settings Adjustment

1 Purpose

The purpose of adjustment of harmonic amplitude & phase-angle settings is to get the best compensation effect.

2 Steps

Fig. 1 Amplitude & Phase angle setting Steps

3 Connecting PQA

In order to adjust Amplitude and phase-angle settings, PQA should be connected correctly, just shown as the picture below.

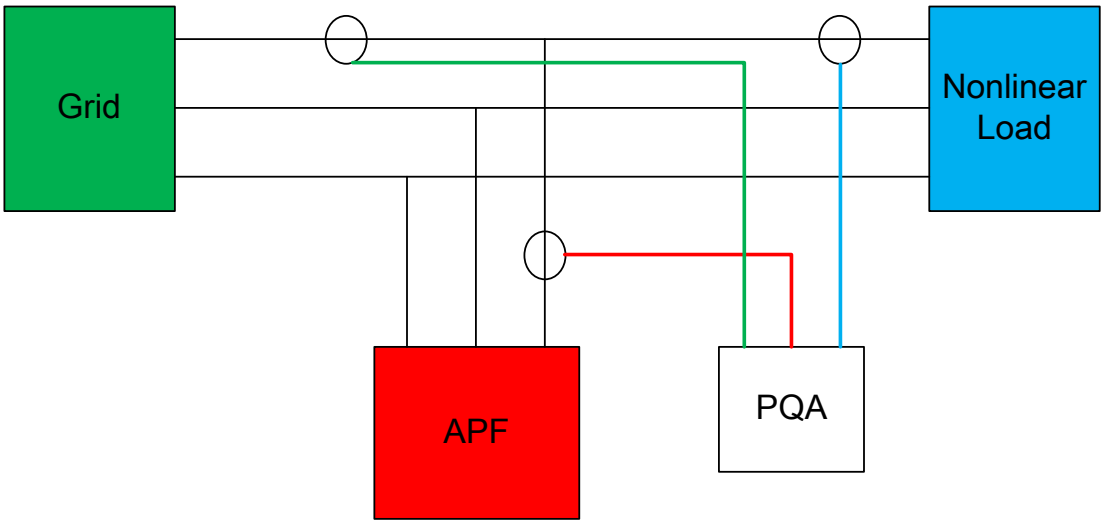

Fig. 2 PQA connection for Amplitude & Phase angle settings

4 Amplitude & Phase-angle Settings Adjustment

Analyze harmonic spectrum of load current(i_Load), APF output current(i_APF) and grid current(i_Grid) of the same phase(R/S/T) with power quality analysis device, As shown in Fig. 3，blue bar represents i_Load，red bar represents i_APF，yellow bar represents i_Grid，the number

n represent n^{th} order harmonic，take 5^{th}，7^{th}，11^{th}，13^{th} orders for example to illustrate amplitude undercompensating, amplitude overcompensating,， phase-angle imprecisely compensating，compensating precisely, as reference for harmonic amplitude/phase-angle adjustment。

Principle： First, compare i_PQC and i_Load and adjust the amplitude accordingly; then check i_Grid to adjust phase angle.

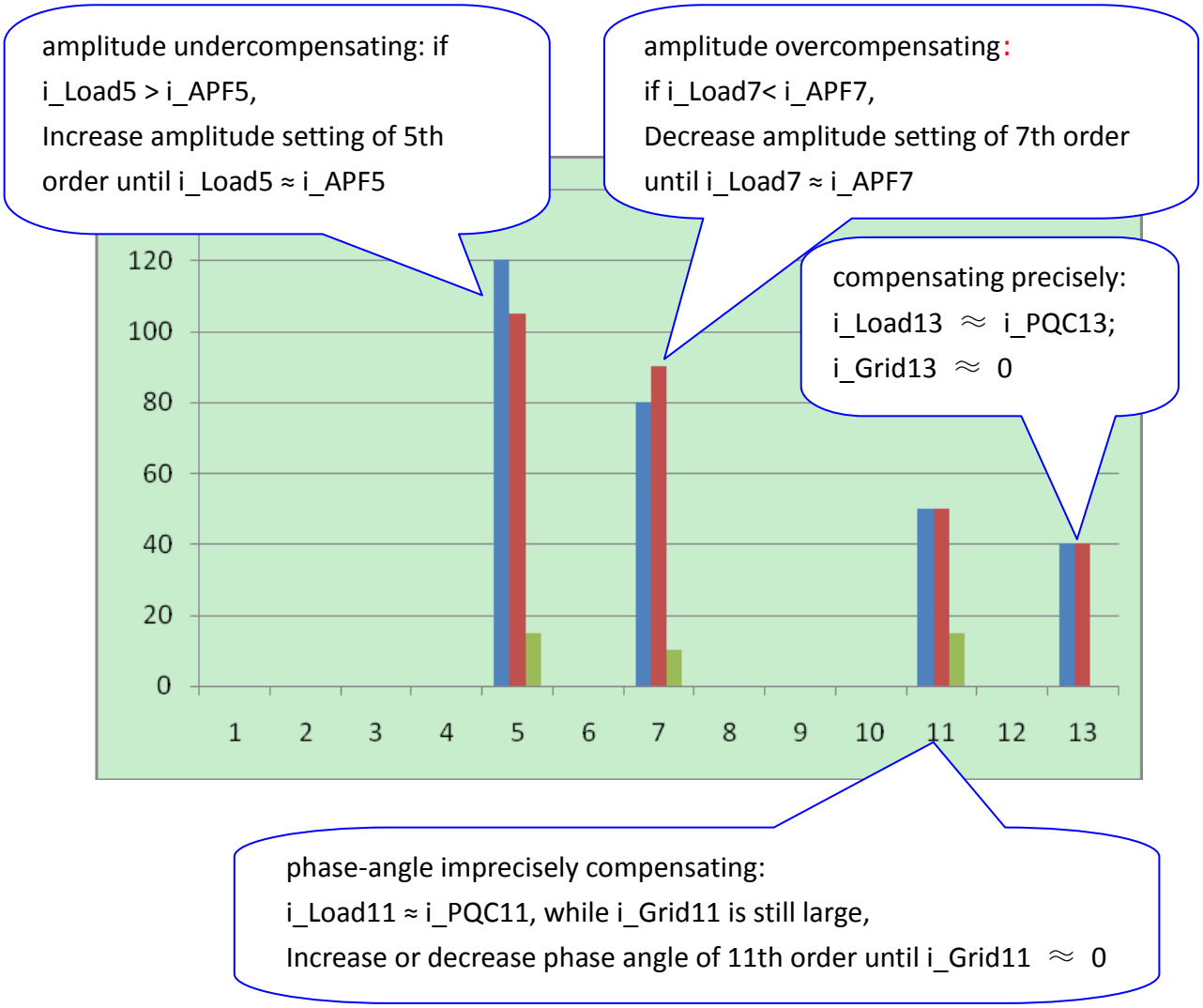

Fig. 3 Judgment criterions for adjustment

Amplitude & Phase angle settings are shown in Fig.4

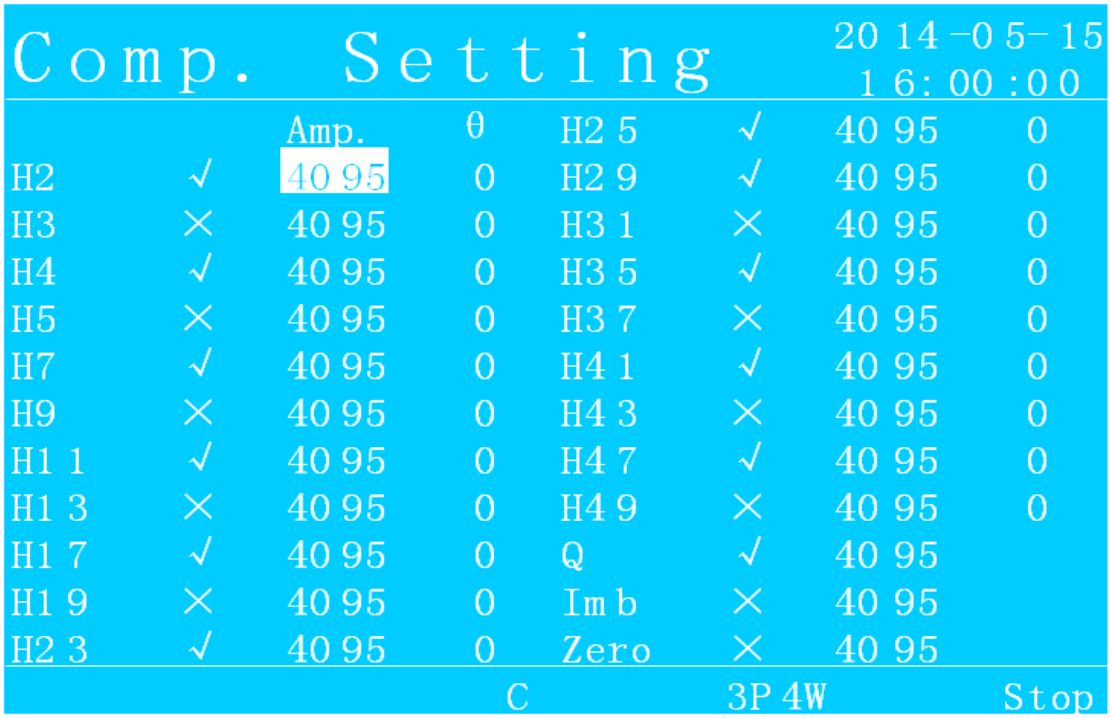

Fig. 4 Amplitude & Phase angle settings Page

NOTE:

1. Amplitude 4096 corresponds to 100% of **the detected load current**, it can be set larger than 4096.
2. The default values for amplitude and phase angle settings are shown in Table 1. Do not change the values drastically in adjusting.

Table 1. Default values for Amplitude and Phase angle settings

Ord.	Amplitude	Theta	Ord.	Amplitude	Theta	Q	Amplitude
H2	4095	40	H23	4500	780	1P	4095
H3	4095	80	H25	4520	860	1Z	4095
H4	4095	120	H29	4800	1000	1N	4095
H5	4110	150	H31	5050	1080		
H7	4120	192	H35	5180	1220		
H9	4150	230	H37	5200	1280		
H11	4210	320	H41	6022	1500		
H13	4230	376	H43	6280	1550		
H17	4350	500	H47	6420	1600		
H19	4380	550	H49	6440	1628		