



Automatic Power Factor Correction System Data Sheet

PFC-2

Watford Control units are designed and built in compliance with the Low Voltage and Electromagnetic Compatibility European Directives regarding CE marking requirements. The products are built with suitable quality components and the manufacturing process is constantly verified in accordance with the Quality Control Plans which the Company applies in compliance with the ISO 9001:2008 Standards. In order to obtain better performance, the products described in the present document can be altered by the Company at any date and without prior notice. *Technical data and descriptions do hold therefore any contractual value.*

Main characteristics

Power factor correction systems fitted with detuning chokes indicated for plants where the current harmonic distortion is higher than 27%. Use of high energy density metallised polypropylene capacitors ensures enhanced performance, low losses and contained dimensions.

- Zinc-passivated metallic enclosure (RAL 7035 colour painted).
- 230Vac auxiliary transformer to separate power and auxiliary circuits.
- Load-break switch with door interlock.
- Contactors.
- Self-extinguishing cables according to IEC 50267-2-1 standards.
- Microprocessor-based Power Factor Correction controller with control and protection module.
- **U_N=525V three phase self-healing high energy density metallised polypropylene capacitors.**
- **Three-phase detuning choke (180Hz tuning frequency; N=3; P=7.7%; 100% non-linear load connected)**

Technical characteristics

Rated operational voltage U _e	415	[V]
Frequency	50	[Hz]
Total current harmonic distortion of the plant THDI _R %	> 27	[%]
Total voltage harmonic distortion in the plant THDV _R %	≤ 6	[%]
5 th harmonic current in percentage I _{250Hz} %	≤ 25	[%]
Max current overload (PFC unit)	1.3 x I _N	-
Max current overload (capacitor)	1.3 x I _N	-
Max voltage overload (PFC unit)	1.1 x U _e	-
Max voltage overload V _n (capacitors)	3 x U _N (1 min)	-
Insulating voltage	690V	[V]
Temperature range (PFC unit)	-5/+40	[°C]
Discharge device	on each bank	
Installation	indoor	
Service	continuous	
Capacitors connection	delta	
Operational devices	contactors	
Applicable standards	IEC 61439-1/2 IEC 61921	
Capacitors standards	IEC 60831-1/2	

Standard range

POWER U _e =415V [kvar]	STEPS COMBINATION No.	STEPS SIZE U _e =415V [kvar]	BANKS U _e =415V [kvar]	L.B. SWITCH [A]	I _{cc} [kA]	PFC CONTROLLER	FANS No.	SIZE IP3X
100	8	2x12,5-25-50	2x25-50	250	17	RPC 8BGA	1	32
150	12	2x12,5-25-2x50	25-50-75	400	25		2	33
200	8	2x25-3x50	50-2x75	630	25		2	33
250	10	2x25-4x50	50-2x100	630	25		2	33
300	6	6x50	3x100	800	35		2	33
400	8	2x50-3x100	4x100	2x630	25		2+2	2x33
500	10	2x50-4x100	5x100	2x630	25		2+2	2x33
600	6	6x100	6x100	2x800	35		2+2	2x33
750	10	2x75-4x150	50-7x100	3x630	25		2+2+2	3x33
900	6	6x150	9x100	3x800	35		2+2+2	3x33
1000	10	2x100-4x200	10x100	4x630	25		2+2+2+2	4x33

Dimensions

<p>Enclosure 32 (WxDxH: 600x600x2000mm)</p>	<p>Floor fixing (532x532mm)</p>	<p>Bottom cable entry (450x270mm)</p>
<p>Enclosure 33 (WxDxH: 800x600x2000mm)</p>	<p>Floor fixing (732x532mm)</p>	<p>Bottom cable entry (650x270mm)</p>