

**CHARGING  
SOLUTIONS**

**HAWKER®  
MODULAR  
CHARGERS**

**TECHNICAL DATA**



# Lifotech® Modular

## MATCHING TABLE OF CAPACITY AND RECHARGE TIME (charging times (+/- 0.5 h) from 80% DOD at 30°C)

CHARGING PROFILES									Gel (PzV, PzVB)	
Slow Charge** PzJ, PzS, PzB, PzM						9 h	10.5 h	12 h	@60% dod 8 h	@60% dod 9 h
Heavy duty flooded PzJ, PzS, PzB, PzQ			7 h	8 h	9 h				@80% dod 11 h	@80% dod 12 h
Standard flooded PzJ, PzS, PzB, PzM (WL8)			6 h	7 h	8 h					
Airmix with PzS, PzB, PzM (WL13), PzQ			5.5 h	6.5 h	7.5 h					
	Configuration	Volt	C5 Min		C5 Max	C5 Min		C5 Max	C5 Min	C5 Max

### SINGLE PHASE

TC1 LT Modular 12V 1kW*	Contr POUT**	12	108	189	208	208	245	290	123	165
	MAX POUT		144	252	277	277	327	387	164	220
TC1 LT Modular 24V 1kW*	Contr POUT**	24	108	189	208	208	245	290	123	165
	MAX POUT		144	252	277	277	327	387	164	220
TC1 LT Modular 24V 2kW	Contr POUT**	24	196	343	377	377	445	527	223	300
	MAX POUT		288	503	554	554	655	774	327	440
TC1 LT Modular 24V 3kW	Contr POUT**	24	380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
TC1 LT Modular 36/48V 1kW*	Contr POUT**	36	64	112	123	123	145	172	73	98
	MAX POUT		100	175	192	192	227	269	114	153
TC1 LT Modular 36/48V 2kW	Contr POUT**	36	136	238	262	262	309	366	155	208
	MAX POUT		192	336	369	369	436	516	218	294
TC1 LT Modular 36/48V 3kW	Contr POUT**	36	240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
TC1 LT Modular 36/48V 1kW*	MAX POUT	48	72	126	138	138	164	194	82	110
	Contr POUT**		98	171	188	188	223	263	111	150
TC1 LT Modular 36/48V 2kW	MAX POUT	48	144	252	277	277	327	387	164	220
	Contr POUT**		172	301	331	331	391	462	195	263
TC1 LT Modular 36/48V 3kW	MAX POUT	48	216	378	415	415	491	581	245	330
	Contr POUT**									

### THREE PHASE

TC3 LT Modular 24/36/48V 3.5kW	MAX POUT	24	280	490	538	538	636	753	318	428
	Contr POUT**		384	671	738	738	873	1032	436	587
TC3 LT Modular 24/36/48V 7kW	Contr POUT**	24	512	895	985	985	1164	1376	582	783
	MAX POUT		560	979	1077	1077	1273	1505	636	856
TC3 LT Modular 24/36/48V 10.5kW	Contr POUT**	24	652	1140	1254	1254	1482	1550	741	997
	MAX POUT		840	1469	1550				955	1120
TC3 LT Modular 24/36/48V 14kW	MAX POUT	24	1120	1550						
TC3 LT Modular 24/36/48V 17.5kW	MAX POUT		1280	1550						
TC3 LT Modular 24/36/48V 21kW	MAX POUT	24	1280	1550						
TC3 LT Modular 24/36/48V 3.5kW	MAX POUT	36	260	455	500	500	591	699	295	398
	MAX POUT		520	909	1000	1000	1182	1398	591	765
TC3 LT Modular 24/36/48V 7kW	MAX POUT	36	780	1364	1500	1500	1550		886	1120
	MAX POUT		1040	1550						
TC3 LT Modular 24/36/48V 14kW	MAX POUT	36	1280	1550						
	MAX POUT		1280	1550						
TC3 LT Modular 24/36/48V 17.5kW	MAX POUT	36								
	MAX POUT									
TC3 LT Modular 24/36/48V 21kW	MAX POUT	36								
	MAX POUT									
TC3 LT Modular 24/36/48V 3.5kW	MAX POUT	48	240	420	462	462	545	645	273	367
	Contr POUT**		328	573	631	631	745	882	373	502
TC3 LT Modular 24/36/48V 7kW	Contr POUT**	48	440	769	846	846	1000	1183	500	673
	MAX POUT		480	839	923	923	1091	1290	545	734
TC3 LT Modular 24/36/48V 10.5kW	Contr POUT**	48	560	979	1077	1077	1273	1505	636	856
	MAX POUT		720	1259	1385	1385	1550		818	1101
TC3 LT Modular 24/36/48V 14kW	MAX POUT	48	960	1550					1091	1120
	MAX POUT		1200	1550						
TC3 LT Modular 24/36/48V 17.5kW	MAX POUT	48	1280	1550						
	MAX POUT									
TC3 LT Modular 24/36/48V 21kW	MAX POUT	48								
	MAX POUT									
TC3 LT Modular 72/80V 3.5kW	MAX POUT	72	160	280	308	308	364	430	182	245
	Contr POUT**		240	420	462	462	545	645	273	367
TC3 LT Modular 72/80V 7kW	MAX POUT	72	320	559	615	615	727	860	364	489
	Contr POUT**		400	699	769	769	909	1075	455	612
TC3 LT Modular 72/80V 10.5kW	MAX POUT	72	480	839	923	923	1091	1290	545	734
	Contr POUT**		640	1119	1231	1231	1455	1550	727	979
TC3 LT Modular 72/80V 14kW	MAX POUT	72	800	1399	1538	1538	1550		909	1120
	Contr POUT**		960	1550					1091	1120
TC3 LT Modular 72/80V 17.5kW	MAX POUT	72								
	MAX POUT									
TC3 LT Modular 72/80V 21kW	MAX POUT	72								
	MAX POUT									
TC3 LT Modular 72/80V 3.5kW	MAX POUT	80	144	252	277	277	327	387	164	220
	MAX POUT		288	503	554	554	655	774	327	440
TC3 LT Modular 72/80V 7kW	MAX POUT	80	360	629	692	692	818	968	409	550
	Contr POUT**		432	755	831	831	982	1161	491	661
TC3 LT Modular 72/80V 10.5kW	MAX POUT	80	576	1007	1108	1108	1309	1548	655	881
	MAX POUT		720	1259	1385	1385	1550		818	1101
TC3 LT Modular 72/80V 14kW	MAX POUT	80	864	1510	1550				982	1120
	MAX POUT									

\* Airmix not available on 1 kW (1Bay).

\*\* (Controlled Power Out) Output currents set at different values to match specific capacities using Slow Charge profile.

# LifeIQ™ Modular

## MATCHING TABLE OF CAPACITY AND RECHARGE TIME (charging times (+/- 0.5 h) from 80% DOD at 30°C)

CHARGING PROFILES							Gel / PzV, PzVB			
Slow Charge** PzJ, PzS, PzB, PzM						9 h	10.5 h	12 h	@60% dod 8 h	@60% dod 9 h
Heavy duty flooded PzJ, PzS, PzB, PzQ			7 h	8 h	9 h				@80% dod 11 h	@80% dod 12 h
Standard flooded PzJ, PzS, PzB, PzM (WL8)			6 h	7 h	8 h					
Airmix with PzS, PzB, PzM (WL13), PzQ			5.5 h	6.5 h	7.5 h					
	Configuration	Volt	C5 Min		C5 Max	C5 Min		C5 Max	C5 Min	C5 Max

### SINGLE PHASE

Model	Profile	Volt	C5 Min		C5 Max	C5 Min		C5 Max	@60% dod	@80% dod
TC1 LQ Modular 24V 1kW***	Contr POUT**	24	108	189	208	208	245	290	123	165
	MAX POUT		144	252	277	277	327	387	164	220
	Contr POUT**		196	343	377	377	445	527	223	300
	MAX POUT		288	503	554	554	655	774	327	440
	Contr POUT**		380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
TC1 LQ Modular 24V 2kW	Contr POUT**	24	196	343	377	377	445	527	223	300
	MAX POUT		288	503	554	554	655	774	327	440
	Contr POUT**		380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
	Contr POUT**		380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
TC1 LQ Modular 24V 3kW	Contr POUT**	24	380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
	Contr POUT**		380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
	Contr POUT**		380	664	731	731	864	1022	432	581
	MAX POUT		432	755	831	831	982	1161	491	661
TC1 LQ Modular 36/48V 1kW***	Contr POUT**	36	64	112	123	123	145	172	73	98
	MAX POUT		100	175	192	192	227	269	114	153
	Contr POUT**		136	238	262	262	309	366	155	208
	MAX POUT		192	336	369	369	436	516	218	294
	Contr POUT**		240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
TC1 LQ Modular 36/48V 2kW	Contr POUT**	36	136	238	262	262	309	366	155	208
	MAX POUT		192	336	369	369	436	516	218	294
	Contr POUT**		240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
	Contr POUT**		240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
TC1 LQ Modular 36/48V 3kW	Contr POUT**	36	240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
	Contr POUT**		240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
	Contr POUT**		240	420	462	462	545	645	273	367
	MAX POUT		300	524	577	577	682	806	341	459
TC1 LQ Modular 36/48V 1kW***	MAX POUT	48	72	126	138	138	164	194	82	110
	Contr POUT**		98	171	188	188	223	263	111	150
	MAX POUT		144	252	277	277	327	387	164	220
	Contr POUT**		172	301	331	331	391	462	195	263
	MAX POUT		216	378	415	415	491	581	245	330
	Contr POUT**		172	301	331	331	391	462	195	263

### THREE PHASE

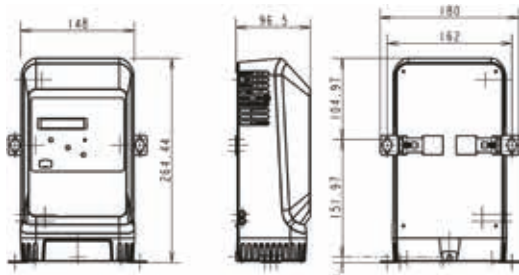
Model	Profile	Volt	C5 Min		C5 Max	C5 Min		C5 Max	@60% dod	@80% dod
TC3 LQ Modular 24/36/48V 3.5kW	MAX POUT	24	280	490	538	538	636	753	318	428
	Contr POUT**		384	671	738	738	873	1032	436	587
	Contr POUT1**		512	895	985	985	1164	1376	582	783
	MAX POUT		560	979	1077	1077	1273	1505	636	856
	Contr POUT**		652	1140	1254	1254	1482	1550	741	997
	MAX POUT		840	1469	1550				955	1120
TC3 LQ Modular 24/36/48V 7kW	MAX POUT	24	560	979	1077	1077	1273	1505	636	856
	Contr POUT**		652	1140	1254	1254	1482	1550	741	997
	MAX POUT		840	1469	1550				955	1120
	MAX POUT		1120	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 24/36/48V 10.5kW	MAX POUT	24	840	1469	1550					
	MAX POUT		1120	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 24/36/48V 14kW	MAX POUT	36	260	455	500	500	591	699	295	398
	MAX POUT		520	909	1000	1000	1182	1398	591	765
	MAX POUT		780	1364	1500	1500	1550		886	1120
	MAX POUT		1040	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 24/36/48V 17.5kW	MAX POUT	36	520	909	1000	1000	1182	1398	591	765
	MAX POUT		780	1364	1500	1500	1550		886	1120
	MAX POUT		1040	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 24/36/48V 21kW	MAX POUT	36	780	1364	1500	1500	1550		886	1120
	MAX POUT		1040	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 24/36/48V 3.5kW	MAX POUT	48	240	420	462	462	545	645	273	367
	Contr POUT**		328	573	631	631	745	882	373	502
	Contr POUT1**		440	769	846	846	1000	1183	500	673
	MAX POUT		480	839	923	923	1091	1290	545	734
	Contr POUT**		560	979	1077	1077	1273	1505	636	856
	MAX POUT		720	1259	1385	1385	1550		818	1101
TC3 LQ Modular 24/36/48V 7kW	MAX POUT	48	480	839	923	923	1091	1290	545	734
	Contr POUT**		560	979	1077	1077	1273	1505	636	856
	MAX POUT		720	1259	1385	1385	1550		818	1101
	MAX POUT		960	1550					1091	1120
	MAX POUT		1200	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 24/36/48V 10.5kW	MAX POUT	48	720	1259	1385	1385	1550		818	1101
	MAX POUT		960	1550					1091	1120
	MAX POUT		1200	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
	MAX POUT		1280	1550						
TC3 LQ Modular 72/80V 3.5kW	MAX POUT	72	160	280	308	308	364	430	182	245
	Contr POUT**		240	420	462	462	545	645	273	367
	MAX POUT		320	559	615	615	727	860	364	489
	Contr POUT**		400	699	769	769	909	1075	455	612
	MAX POUT		480	839	923	923	1091	1290	545	734
	MAX POUT		640	1119	1231	1231	1455	1550	727	979
TC3 LQ Modular 72/80V 7kW	MAX POUT	72	320	559	615	615	727	860	364	489
	Contr POUT**		400	699	769	769	909	1075	455	612
	MAX POUT		480	839	923	923	1091	1290	545	734
	MAX POUT		640	1119	1231	1231	1455	1550	727	979
	MAX POUT		800	1399	1538	1538	1550		909	1120
	MAX POUT		960	1550					1091	1120
TC3 LQ Modular 72/80V 10.5kW	MAX POUT	72	480	839	923	923	1091	1290	545	734
	Contr POUT**		560	979	1077	560	979	1077	636	856
	MAX POUT		720	1259	1385	720	1259	1385	818	1101
	MAX POUT		960	1550		960	1550		1091	1120
	MAX POUT		1200	1550		1200	1550			
	MAX POUT		1280	1550		1280	1550			
TC3 LQ Modular 72/80V 14kW	MAX POUT	72	640	1119	1231	640	1119	1231	727	979
	MAX POUT		800	1399	1538	800	1399	1538	909	1120
	MAX POUT		960	1550		960	1550		1091	1120
	MAX POUT		1200	1550		1200	1550			
	MAX POUT		1280	1550		1280	1550			
	MAX POUT		1280	1550		1280	1550			
TC3 LQ Modular 72/80V 17.5kW	MAX POUT	72	800	1399	1538	800	1399	1538	909	1120
	MAX POUT		960	1550		960	1550		1091	1120
	MAX POUT		1200	1550		1200	1550			
	MAX POUT		1280	1550		1280	1550			
	MAX POUT		1280	1550		1280	1550			
	MAX POUT		1280	1550		1280	1550			
TC3 LQ Modular 72/80V 21kW	MAX POUT	72	960	1550		96				



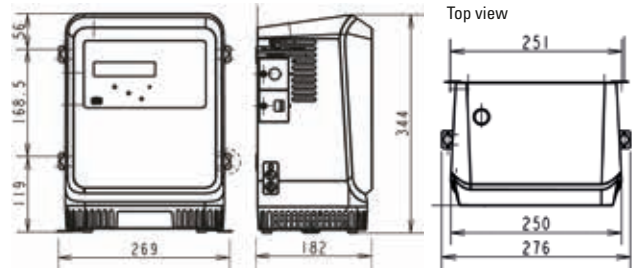
### TECHNICAL SPECIFICATION - SINGLE PHASE (values @ nominal supply voltage 230Vac)

Specifications	Units	Stand Alone 1kW *			2kW		3kW	
Battery voltage		12V	24V	36/48V	24V	36/48V	24V	36/48V
Input voltage range	V <sub>ac</sub>	85 - 265V / 1Ph (Nominal 230V +/- 10%)						
Frequency	Hz	50/60						
Max input current	A <sub>ac</sub>	2.4	4.8	5.1	9.6	10.2	14.4	15.3
AC input cable section	mm <sup>2</sup>	3 x 1.0			3 x 1.5			
AC input cable length	m	1.5						
Max output current	A <sub>dc</sub>	36	36	25/18	72	50/36	108	75/54
Battery cables section	mm <sup>2</sup>	6			25			
Battery cables length	m	3						
IP protection		IP21						
Operating temperature	°C	0°C to +55°C (Auto Derate after +45°C)						
Power factor		0.99						
Idle mode	W	≤10						
Display		2 line LCD (Lifetech) - 4" TFT Multi Colour (LifeIQ)						
Weight	kg	2.4			6.7		7.7	
Dimensions	mm	264 x 148 x 96.5 (no brackets)			344 x 250 x 182 (no brackets)			
Weight (w/airmix)	kg	* Not available on stand alone 1kW			10.0		11.0	
Dimensions (w/airmix)	mm	* Not available on stand alone 1kW			435 x 286 x 185 (no brackets)			
Cabinet		1 bay stand alone (1 module)			3 bay (2 modules)		3 bay (3 modules)	

1 Bay Standalone Cabinet



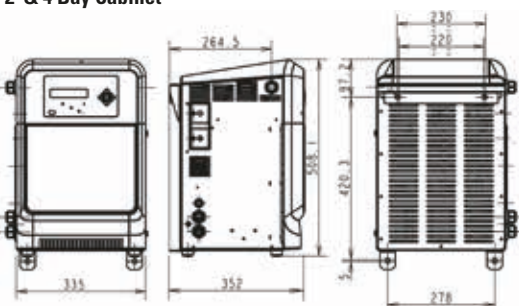
3 Bay Cabinet



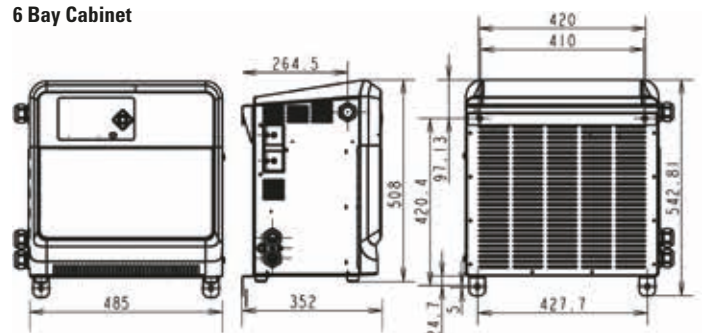
### TECHNICAL SPECIFICATION - THREE PHASE (values @ nominal supply voltage 400Vac). \*Restricted to max 320A DC output due to single plug limitation

Specifications	Units	3.5kW		7kW		10.5kW		14kW		17.5kW*		21kW*	
Battery voltage		24/36/48V	72/80V	24/36/48V	72/80V	24/36/48V	72/80V	24/36/48V	72/80V	24/36/48V	72/80V	24/36/48V	72/80V
Input voltage range	V <sub>ac</sub>	360-530V / 3Ph (Nominal 400V +/- 10%)											
Frequency	Hz	50/60											
Max input current	A <sub>ac</sub>	5.6	5.6	11.2	11.2	16.8	16.8	22.4	22.4	28.0	28.0	29.8	33.6
AC input cable section	mm <sup>2</sup>	4 x 2.5				4 x 4.0				4 x 6.0			
AC input cable length	m	2											
Max output current	A <sub>dc</sub>	70/65/60	40/36	140/130/120	80/72	210/195/180	120/108	280/260/240	160/144	320/320/300	200/180	320/320/320	240/216
Battery cables section	mm <sup>2</sup>	35				70				95			
Battery cables length	m	3											
IP protection		IP21											
Operating temperature	°C	0°C to +55°C (Auto Derate after + 45°C)											
Power factor		0.95											
Idle mode	W	≤10											
Display		2 line LCD (Lifetech) - 4" TFT Multi Colour (LifeIQ)											
Weight	kg	26.0		29.5		33.5		37.0		44.5		48.0	
Dimensions	mm	508 x 335 x 352											
Weight (w/airmix)	kg	28.0		31.5		35.5		39.0		46.5		50.0	
Dimensions (w/airmix)	mm	508 x 335 x 352											
Cabinet		2 bay (1 module)		2 bay (2 modules)		4 bay (3 modules)		4 bay (4 modules)		6 bay (5 modules)		6 bay (6 modules)	

2 & 4 Bay Cabinet



6 Bay Cabinet



## MODULAR OPTIONS

Option	Description	Lifetech *	Life iQ
<b>Airmix</b>	Battery electrolyte circulation Assists with heat and charge time	●	●
<b>Electrovalve Auto watering</b>	Auto watering solenoid controlled by charger. Must have SPW fitted	●	●
<b>Remote Status Lights</b>	Wired RED/GREEN light box for remote charger status indication	●	●
<b>Remote Status Lights with ON/OFF switch</b>	Wired RED/GREEN light box for remote charger status indication Includes ON/OFF switch	●	●
<b>BSi40™ Battery Queuing System</b>	Connection to the Hawker® BSi40 battery queuing FIFO system Refer BSi40 system requirements	●	●
<b>Arcless Safety Disconnect</b>	Reduce possible arcing when accidentally disconnecting DC plug under load	●	●
<b>Ethernet (Wired)</b>	Connect to a wired network Hawker LifenetworkiQ™ system or AGV system		●
<b>Ethernet (WiFi)</b>	Connect to a wireless network Hawker LifenetworkiQ™ system or AGV system		●
<b>BFM</b>	Connect to previous Hawker Powernet™ system		●
<b>PLC</b>	Connect to a Programmed Logic Control as found in many AGV systems	●	●

\* not available on 1 kW (1bay) standalone

Consult with your Enersys representative if options are required.

WHEREVER  
YOU DO BUSINESS,  
ENERSYS  
CAN SUPPORT  
YOU WITH MOTIVE  
POWER ENERGY.



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MPAC002 10.2020 - Subject to revisions without prior notice. E&OE