

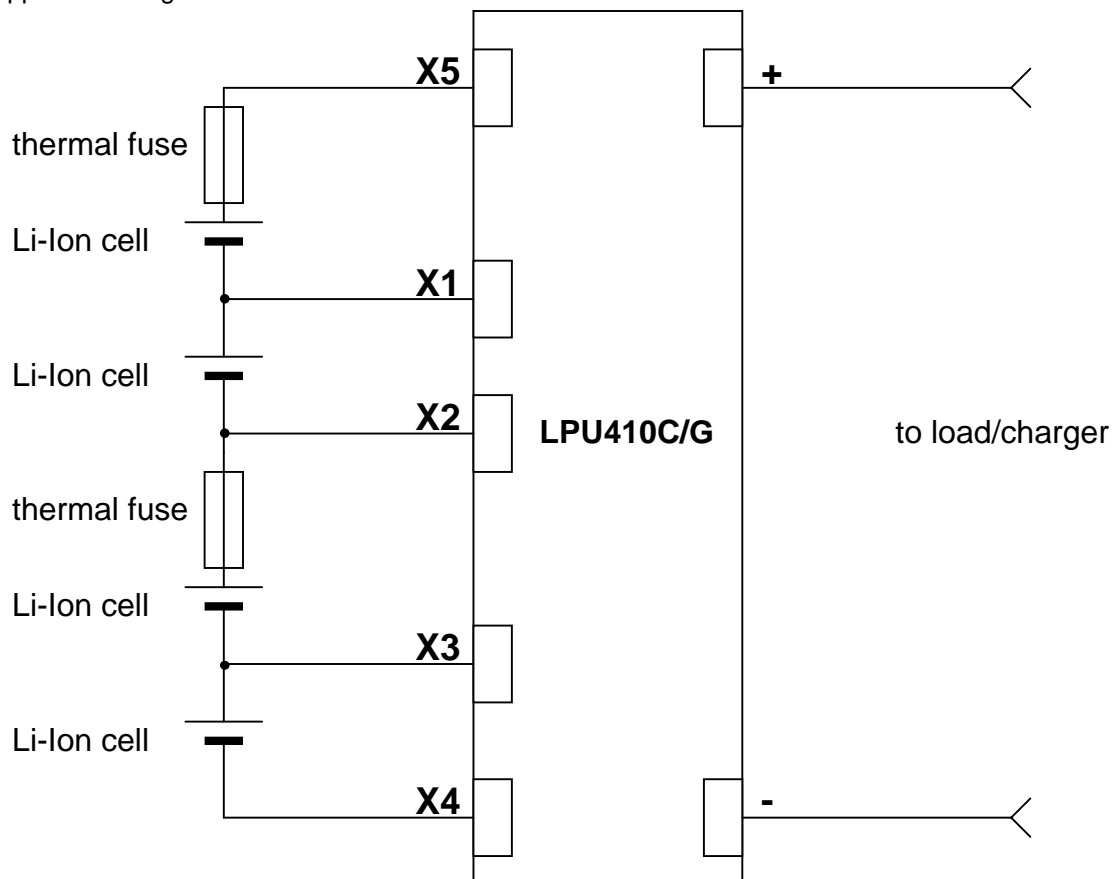
## Specifications Li-Ion pack protector module LPU410C/G

The LPU410 is a Li-Ion protection module designed to protect Li-Ion battery packs with three or four cells off overcharge, deep discharge as well as excessive discharge and charge currents.

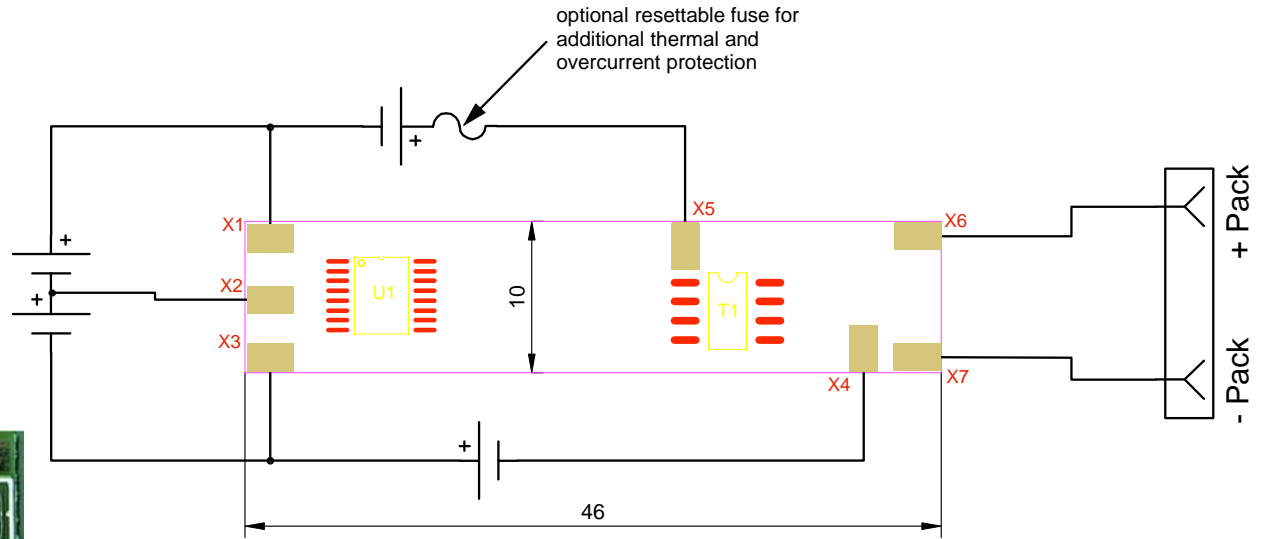
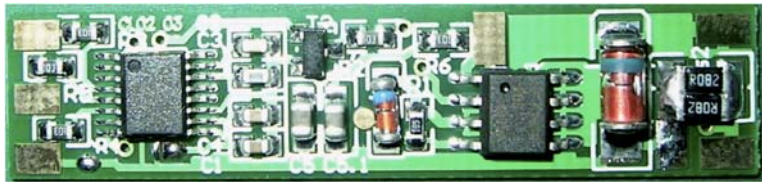
The following specifications apply :

- |                                       |  |
|---------------------------------------|--|
| • Cell type                           | graphite and coke  |
| • Overcharge protection voltage       | version C      4.25±0.05V per cell<br>version G      4.35±0.05V per cell     |
| • Deep discharge detection voltage    | 2.3±0.1V per cell  |
| • Max. cont. discharge/charge current | 2A (other values on request)   |
| • Max. input voltage                  | 20V  |
| • Overcurrent protection delay        | 8...800ms factory setable (50ms default)                                     |
| • Short circuit protection delay      | 100...1200µs factory setable (700µs default)                                 |
| • Deep discharge protection delay     | about 15ms   |
| • Overcharge protection delay         | about 15ms   |
| • Max. current consumption, active    | 40µA   |
| • Max. current consumption, sleep     | 7.5µA, at $V_{bat} < 2.4V$   |
| • Max. dimension                      | 46mm x 10mm x 3.9mm (LxWxH), 3.2mm height on request, other sizes on request |

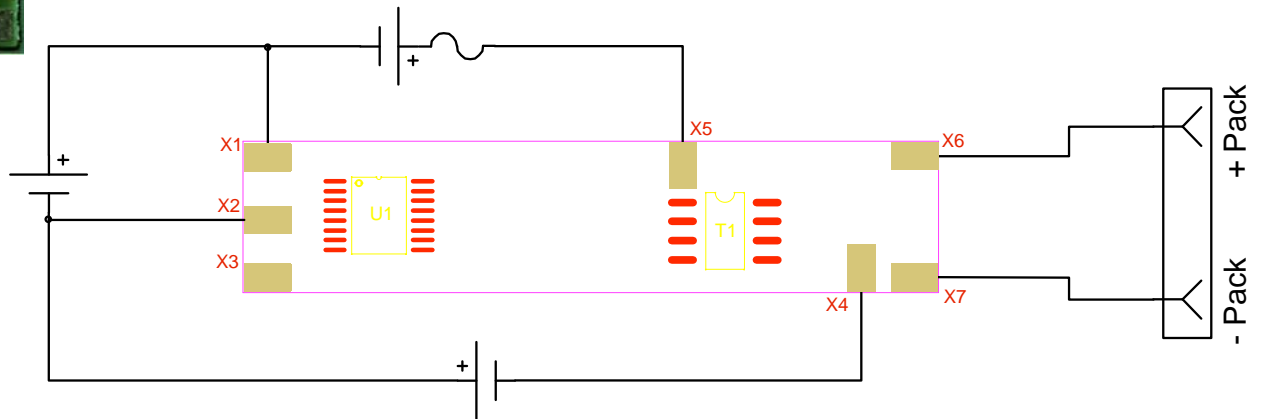
Application diagram



4-Cell configuration



3-Cell configuration



**Important!**

Connect the battery pack to the protection module in the following order:

1. Minus end of battery pack to X4 of protection module
2. Positive end of battery pack to X5 of protection module
3. Intermediate cells as shown in the connection diagram in any order

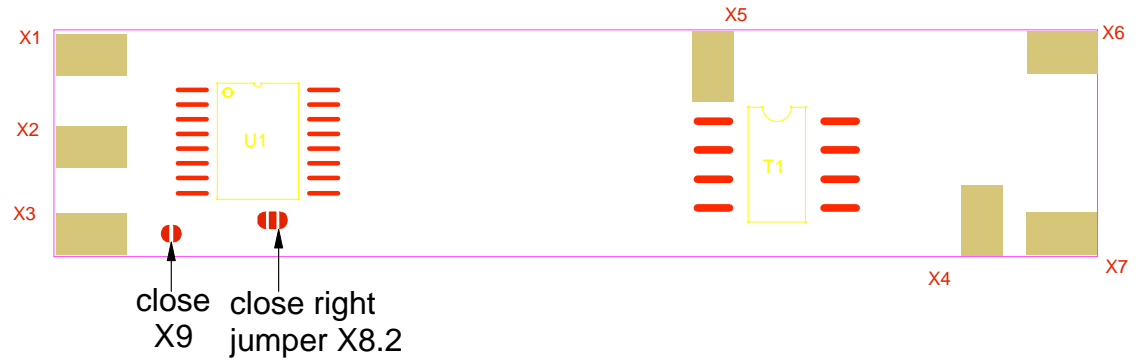
Failing to follow this instruction may result in damage of the protection module and is NOT covered by warranty!

				unspecified tolerances according ISO 2768m		all dimensions in mm			
						scale 2:1			
								callisto electronics Ltd.	
rev.	comment	date	sign.		date	sign.	drawing name LPU410 connection diagram and mechanical outline		
A1	added order of pack connection	12.09.07	LS	drawn	05.08.2002	LS			
				check.					
				appr.			drawing number MOD.LPU410.1		
				material			drawing number		page 1
							replaced by		of 1
							replacement date		

4-Cell configuration



3-Cell configuration



				unspecified tolerances according ISO 2768m		all dimensions in mm			
						scale not to scale		callisto electronics Ltd.	
rev.	comment	date	sign.	drawn	09.12.2003	sign.	drawing name LPU410 jumper settings for 3 and 4 cell operation		
				check.					
				appr.					
				material			drawing number	MOD.LPU410.2	page 1
							replaced by		of 1
								replacement date	