

# Änderungsmitteilung (CN)

Product Change Notification



SETTING STANDARDS  
IN POWER SOLUTIONS

Technologiepark 1 ~ D-66424  
Homburg/Saar ~ Tel. +49-6841-9809-100  
~ Fax +49-6841-9809-290


Title [Title] <b>Improved performance and BMS Implementation of new corporate design Implementation of new labelling process New manufacturing location</b>		Date [Datum] <b>04Aug2020</b>	Ref. No. [Lfd. Nr.] <b>CN_18_041 (Update B)</b>	
Part Name [Teilebezeichnung]	RRC Article No. [RRC Art-Nr.]	Index	Customer Article No. [Kunden Art-Nr.]	Index
RRC1120	110018	-11 (mass-production)		

Reason for Change [Grund für die Änderung]

Design [Design]       Logistics [Logistik]       Manufacturing Location [Fertigungsverlagerung]

Processing [Verfahren]       Material [Material]       Quality / Reliability [Qualität / Zuverlässigkeit]

## Change Description [Beschreibung der Änderung]

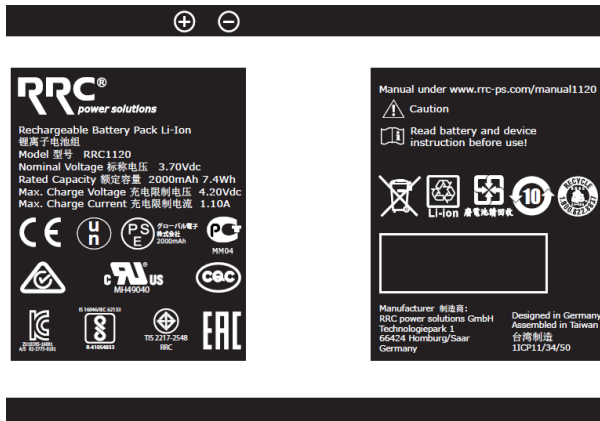
1. Improved cell to increase the overall performance
  - a. Improved nominal capacity/energy: 2.35Ah instead of 2.0Ah / 8.5Wh instead of 7.4Wh
  - b. Nominal voltage: 3.60V
  - c. Improved charge current: 1.59A instead of 1.00A
  - d. Improved discharge current: 2.30A max.
  - e. Improved over charge current protection: 2.00A instead of 1.36A
  - f. Improved under voltage protection: 2.75V instead of 2.80V
  - g. Improved discharge over current protection: 2.50A instead of 2.27A
  - h. New charge timeout feature: charging will be interrupted after 18hrs
2. Improved battery management system (BMS)
  - a. Over temperature protection while charge and discharge is implemented in this battery pack now.
    - i. There is no longer any need for the application to monitor the temperature of the battery. Therefore, a fixed resistor that represents a temperature range of 25°C - 30°C now replaces the analog NTC.
    - ii. The temperature query via I2C bus continues to provide the correct values.
  - b. Extended fuel gauge functionality with additional registers: ChargeVoltage() and ChargeCurrent()
  - c. Shipping mode implemented to eliminate parasitic current draw and increase the shelf life
  - d. Series resistors in I<sup>2</sup>C lines reduced to 10R to improve the robustness of communication
3. Improved housing
  - a. Battery cell encapsulated in plastic housing results in IP class: IP40
  - b. Improved key feature on contact side to avoid wrong insertion of the battery and damage of mating connector
  - c. Optimized label material with improved abrasion resistance
4. Regulatory
  - a. Updated safety standard: The battery complies with IEC62133-2:2017
  - b. Updated BIS standard for India: The battery complies with IS16046(Part 2):2018
  - c. New CMIM mark for Morocco: 
5. Modified packaging
  - a. The middle box for 8 single boxes is omitted
  - b. The number of batteries in the shipping box is increased from 96 to 200 pieces (9.5kg)

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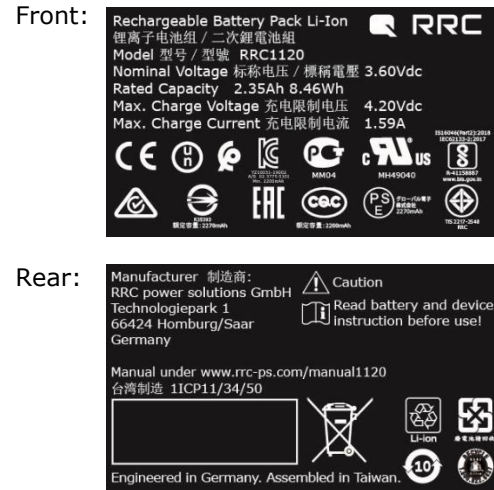
6. Changed Label Information

RRC has renovated its corporate design including the company logo. This will be reflected by the changes on the label. Content information is updated.

Old device label design:



New device label design:

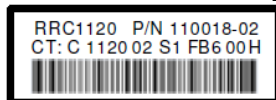


7. Factory location will change within Taiwan.

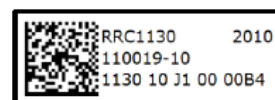
RRC has updated its logistic process. This will be reflected by the changes on the labels for battery and packaging. With upcoming mass-production (110018-11), we will implement these design changes.

8. Barcode label on battery and on single box will change

Old barcode label design:



New barcode label design (example):



The definition of the content on the new barcode label is shown in separate document (SCD\_211632-01\_A\_Serial\_Number\_Label\_7x20mm).

9. Serial number definition will change

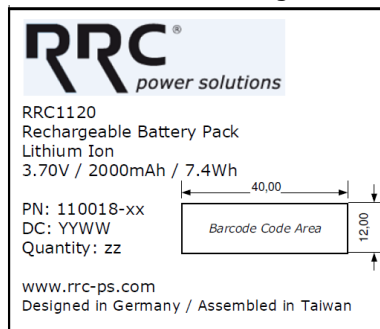
As shown in above barcode label the serial number definition will change. Most customer's complaint to have the date code integrated in the alphanumeric serial number only. Now we extract it from the serial number and will have it in format YYWW (year + week, e.g. 2010), same as on the chargers. The new date code is available on the battery's barcode label, the single-box and the outer-box label.

We deleted the prefix section "CT:C" from the serial number. Next sections for model code, revision of pre-assembly and factory line remains the same. The last six digits are now in hex format and reserved for the continuous numeration of the production units, independent from manufacturing date.

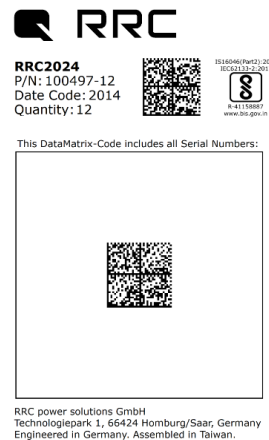
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10. Barcode label on outer-box will change

Old barcode label design:



New barcode label design (example):



The definition of the content of new outer-box label is shown in separate document (SCD\_211625-02\_A\_Outer\_Box\_Label\_JMS.pdf).

The separate data matrix code in the frame will include the serial numbers of all 200 batteries packed in one outer-box. The data matrix code above will include model code, part number and date code.

Identification of Change [Erkennen der Änderung]

Traceability is ensured by revision step, see barcode label on the battery and on the single-box for each battery as well as on the outer-box for 200 pieces of batteries (Please see examples above).

Impact on Quality and / or Reliability [Auswirkungen auf die Qualität bzw. die Zuverlässigkeit]

Improvement of quality, reliability and traceability.  
Battery pack is fully compatible to former revisions.

Qualification Data [Nachweise]	<input checked="" type="checkbox"/> Available [verfügbar]	<input type="checkbox"/> Will be available [wird verfügbar sein]	<input type="checkbox"/> Not applicable [nicht zutreffend]
Samples [Muster]	<input checked="" type="checkbox"/> Available [verfügbar]	<input type="checkbox"/> Will be available [wird verfügbar sein]	<input type="checkbox"/> Not applicable [nicht zutreffend]

Estimated implementation Date* [Voraussichtliches Datum der Einführung]	Last Time Buy of pre-change product [letzte Bestellung für ungeändertes Produkt bis]	Last Time Ship of pre-change product [letzte Lieferung des ungeänderten Produkts]
a) Pre-production samples for customer approval (#110018-11) available in October 2020	Please contact your sales representative for arrangement	Please contact your sales representative for arrangement
b) Mass-production (#110018-11) available from April 2021		

\*: The estimated implementation Date is the forecasted date that a customer may expect to receive the changed product. This is determined by the estimated date of inventory depletion on the Product Change Notification (CN) issue date. This may be affected by fluctuation in supply and demand. Consequently, although customers should be prepared to receive changed product on this date, RRC will continue to ship pre-changed product until a time in which inventory has been depleted. This may result in pre-changed product shipped to customers after this forecast date.

[Das voraussichtliche Datum der Einführung ist ein vorhergesagtes Datum an dem der Kunde das geänderte Produkt erhalten könnte. Dies bestimmt sich durch das voraussichtliche Datum des Lagerbestandsabbaus in Verbindung mit dem Herausgeben der Änderungsmitteilung / Product Change Notification (CN). Dieses wiederum kann beeinflusst werden durch Schwankungen bei Lieferung und Nachfrage. Konsequenterweise, obwohl der Kunde vorbereitet sein sollte das geänderte Produkt zu erhalten, wird RRC weiterhin das ungeänderte Produkt ausliefern, bis zu dem Zeitpunkt, an dem das Lager geräumt ist. Dieser Umstand könnte dazu führen, dass ein ungeändertes Produkt zu einem Zeitpunkt an den Kunden ausgeliefert wird, welcher zeitlich nach dem vorhergesagten Termin liegt.]

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RRC will deem this change accepted unless specific conditions of un-acceptance are provided in writing within 30 days from the date of this notice. All correspondence must be sent to the Quality Contact email address listed above.

[RRC wird diese Änderung als vom Kunden akzeptiert betrachten, wenn nicht innerhalb von 30 Tagen mit ausreichender Begründung in schriftlicher Form widersprochen wird. Jegliche Korrespondenz hierzu muss an die oben genannte email-adresse des zuständigen Qualitäts-Verantwortlichen gesendet werden.]

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