



Azoteq Product Change Notice: IQS620A

Issued Date: 3 July 2019

Effective Date: 3 July 2019

PCN Number: ACN_IQS620A_01

Product change classification: Minor

1 Azoteq Change Notification Policy

Azoteq appreciates that our customers often have long product life cycles. As Azoteq values our customers' needs, we try to keep our products in production for as long as possible. There are, however, legal, environmental or performance requirements that will sometimes necessitate the need for a running change to a part. We weigh this very carefully against the inconvenience caused to customers already in production.

Azoteq allows customers to request reservations for the final stock quantity that may be available in the warehouses after the final production run. The reservation requests will be assigned on a first come, first serve basis and must be confirmed by a formal order within 7 days of being notified of a successful stock reservation request.

2 Detailed Description of Changes

2.1 Part Number Description Change

The part number will remain IQS620A. Changes to the top marking will apply for the new version 2.

2.1.1 DFN10

Part number	IQS620AzDNR	IQS620AzDNR
Version number (v)	1	2
Top marking ¹	IQS620AX viz PWWYY (With v = 1 for version 1 parts)	IQS620AX viz PWWYY (With v = 2 for version 2 parts)
Bottom marking	None	None

2.1.2 WLCSP9

Part number	IQS620AzCSR	IQS620AzCSR
Version number	1	2
Top marking ¹	IQS620A Xzvp ppxx (With v = 1 for version 1 parts)	IQS620A Xzvp ppxx (With v = 2 for version 2 parts)
Bottom marking	None	None

¹ Please refer to IQS620A datasheet for full description



2.2 Software Changes

The changes from IQS620A version 1 to IQS620A version 2 consist only of software changes.

This IQS620A version 2 software can be identified by *Software number* register 0x01 = 0x0D = D'13.

The changes made for version 2 are listed below.

Bug fixes:

- Temperature UI execution between channel 4 & 5 changed to execute unconditionally whether channels are active or disabled.
- SAR UI clearing compensation value at maximum resolved.
- Auto mode timer (0xD6) = D'0 (0ms) or D'1 (500ms) immediately entering ULP mode, even if ULP mode is disabled, resolved.
- For halt timeout conditions, touch flag clearing resolved to occur immediately.
- Fast LTA limit calculation corrected.

Device feature additions:

- Fast debounce of channels 0 – 5 by removing report rate sleep time while in debounce. Active by default: Bit option added to ProxSettings5 (0x51) bit4: 0 = Fast debounce active in NP & LP mode; 1 = Fast debounce inactive in NP & LP modes.
- Floating gate option added to disable Hall-effect sensors (CH4 & 5) permanently. Required for devices that operate at a supply voltage of 1.8V and require a 5% tolerance on the voltage supply source, not to exceed the maximum regulator load when VDDHI = 1.71V (absolute minimum). Bit option added to OTP bank0: bit7: 0 = Hall-effect sensors active; 1 = Hall-effect sensors disabled.

See the IQS620A datasheet for more information on the added features.

2.3 Internal Hardware Changes

None.

2.4 External Hardware (Mechanical) Changes

None.

3 Impact on Customer Products

- Customers who have used the temperature UI and was required to keep CH4 & CH5 active, can now disable CH4 and CH5 completely without affecting the temperature UI execution.
- Customers who have used the device only in normal and low power modes will now observe a significant improvement in debounce response time.
- Customers who required a 5% tolerance at a VDDHI = 1.8V and didn't require the use of the Hall-effect sensing, can disable the Hall-effect sensors permanently. Guarantee can then be provided for operation at an absolute minimum supply voltage of 1.71V.

4 Recommended Action

Customers currently using IQS620A version 1 can do a rolling change to IQS620A version 2 devices without any necessary changes to host software or hardware. Customers should just be aware of the *Software number* update in memory map register 0x01. The IQS620A version 2 is otherwise fully backwards compatible to the version 1 software part.

However, to benefit from use of IQS620A version 2, and the additional features, such as the improved wake-up response performance, changes to device setup for normal and low power report



rates can lead to a decrease in current consumption without sacrificing sensor wake-up response. Disabling Hall-effect sensors (if not needed) can also be done without any impact on other sensors.

It is recommended to switch from IQS620A version 1 to IQS620A version 2 due to the vast improvement in debounce time (in normal and low power modes) and minor bug fixes from the former to the latter.

If any features in use in customer applications have been impacted by the change, customers are encouraged to contact Azoteq in order to obtain support on migration from IQS620A version 1 to IQS620A version 2 in customer applications.

5 Reference Documents/Attachments

[IQS620A Datasheet](#)

6 Contact Information

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