

AIM RFID Interface Module (RFIDIM)

Change Description

The RFID Interface Module (RFIDIM) powers the tank ring to enable RFID communications with the hose tag in an AIM system. This product bulletin is to inform you that a new RFIDIM is available. The latest released Syntech part number is 941B0405-40.

Why the Change?

Due to ongoing supply chain issues worldwide, the PSOC microcontroller chip (programmable system on chip) went into the manufacturer’s ‘constrained allocation’ status . This meant that availability and delivery dates from the manufacturer could not be relied upon. The issue required Syntech Systems to look for an approved alternative PSOC and the result is a new RFID Interface Module (RFIDIM) 941B0405-40. There is no change to form, fit, or function.

Compatibility

The table below shows the compatibility between RFIDIM versions and AIM Module versions; listing the most recent release to the oldest (L-R) based on manufacturing and Syntech’s part ID. Part numbers in red are **obsolete**.

RFIDIM Part #	Syntech’s	941B0405-40	941B0405C	941B0405D	941B0405B
	Manufacturing	(941B0405-40)	(941B0405-30)	(941B0405-25)	(941B0405-20)
AIM Version	AIM Titanium (2.4GHz)	✓	✓	X	X
	AIM2.4 (2.4GHz)	✓	✓	✓	✓
	AIM2 (900MHz)	✓	✓	✓	✓

LEGEND

Compatible: ✓ Incompatible: X

- **941B0405-40**: The newer PSOC version will be used for new orders and wherever applicable on service orders.
- **941B0405C (-30)**: These will continue to be manufactured as long as the older PSOC is available. Where the older PSOC becomes unavailable, these will be used until existing inventory is depleted.
- **941B0405C and 941B0405D**: Both are obsolete. They remain on the table to relay compatibility information.

RFIDIM CHANGE HISTORY

NOTE Issues mentioned below, addressed and resolved using part ID 941B0405-30, are also addressed and resolved using 941B0405-40.

(2022) PSOC microcontroller chip change

(2016/2015) 941B0405C and 941B0405D - Changes to Design

- The new RFID Interface Board (RFIDIB) printed circuit board (PCB) used on both the 941B0405C and 941B0405D RFIDIMs has been slightly redesigned due to an obsolete part.
- The new RFIDIM assembly will be potted in black and stamped with a FuelMaster logo. The current version is potted in amber. Refer to: *941B0405_RFIDIM_Drawing Release History* (starting on page 5).
- New manufacturing dash numbers have been assigned (941B0405-25 and 941B0405-30). The part number and dash number are on the RFIDIM label for easy identification.
- This new change will create a sixth-generation RFIDIM; each generation looks slightly different than the earlier version (see images starting on page 5).

NOTE The issues addressed below pertain to AIM2 and AIM 2.4GHz systems using firmware older than v2.11.

(2016/2015) 941B0405C and 941B0405D - Issues Addressed

Dual Tank Configurations

Dual tank installations require two (2) RFIDIMs.

- It was discovered in rare cases the RFIDIB would 'lockup' and require a reset.
- Another symptom with the dual tank configuration is that a running transaction could stop prematurely if the RFIDIB locks up while the transaction is running.
- These cases are extremely intermittent. Please note:
 - The AIM does not lock up.
 - The RFIDIB locks up or could lock up, and then the RFIDIB will not send Hose Tag/Nozzle Tag data to the AIM.
 - The AIM will not recognize a Hose Tag/Nozzle Tag is not inserted.
 - Nothing happens at the FMU; there is no response.
 - The FMU sits there waiting for a transaction to be initiated.
 - The operator cannot fuel.
 - Once locked up, it requires a reset to clear the condition.

Single Tank Configurations:

- If a customer has a One (1)-Tank-configuration and experiences an issue with the RFIDIM, they can swap in a new 941B0405C or 941B0405D and move on. Single tank configurations are not an issue (Refer to the compatibility chart).

Resolution

If a vehicle has a dual tank configuration – which requires two RFIDIMs – there are two options:

1. AIM2.4 firmware version 2.12 and newer:

- a. This version supports mixed configurations:
 - i. two old ((2) 941B0405-20 or (2) 941B0405-25)
 - ii. one old/one new (941B0405-20 or 941B0405-25) and (941B0405-30)
 - iii. two new (941B0405-30)

NOTE AIM version 2.12 along with FMU firmware version 3.91 and FMPlus software version 5.8.3.1 were released on 2016-05-19 as Limited Release. The following is noted:

New AIM Features

Supports dual-tank configurations with both RFID 941B0405-20 and 941B0405-30. The RFIDIB firmware version and connectivity state display in the “RFID” command. PAN ID displays in the “Ver” command.

2. AIM2.4 firmware version 2.10 or older:

- a. Continue to use two of the older amber potted versions, or,
- b. Use two of the new (black, potted) versions.

NOTE You cannot mix amber RFIDIM with newer, black RFIDIM (-30, -40). The AIM firmware will not support this configuration.

941B0405 IDENTIFICATION

New RFIDIMs are:

- potted, black material with the FuelMaster logo
- labeled with either the new dash number (-40) on the label or old dash numbers (-25 or -30).

NOTE There was a black potted version used back in 2006; however, there was no logo and no dash number on the label. These should be easily distinguishable from newer RFIDIMs. Refer to the [941B0405 RFIDIM Release History](#) section below.

RFIDIM 941B0405-40

This latest version RFIDIM has black over-mold displaying the FuelMaster logo just like the versions below. No other black version contains the logo, so these products are easily identified. The label contains the information required to distinguish it (i.e., STS part number [941B0405-40](#) (MFG part number 941B0405-40)).

Refer to the [compatibility chart](#) for usage.



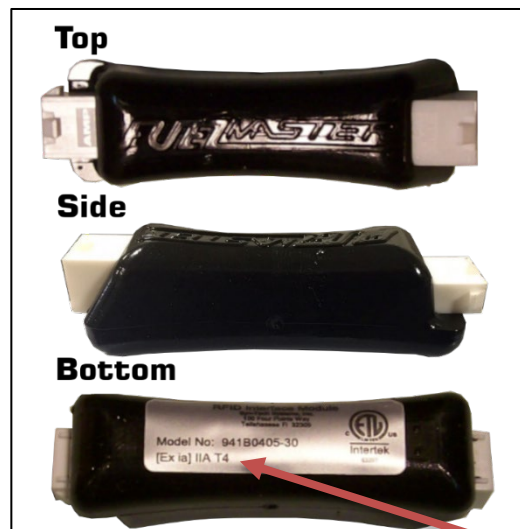
Figure 1. RFIDIM 941B0405-40 - Top/Bottom View

RFIDIM's 941B0405C and 941B0405D

This version RFIDIM has black over-mold displaying the FuelMaster logo. No other black version contains the logo, so these products are easily identified. The label contains the information required to distinguish the following:

- STS part number [941B0405C](#) (MFG part number 941B0405-30)
- STS part number 941B0405D (MFG part number 941B0405-25)

Refer to the [compatibility chart](#) for usage.



-30

Figure 2. RFIDIM 941B0405C - Top/Side/Bottom View

941B0405 RFIDIM - Release History

941B0405 RFIDIM product release (oldest is on the left '1'; subsequent releases on the right '2' thru '5').

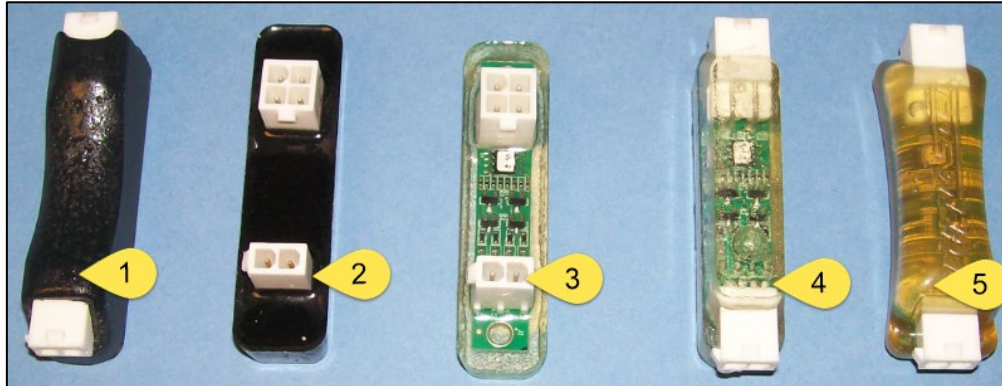


Figure 3. 941B0405 History - Top View

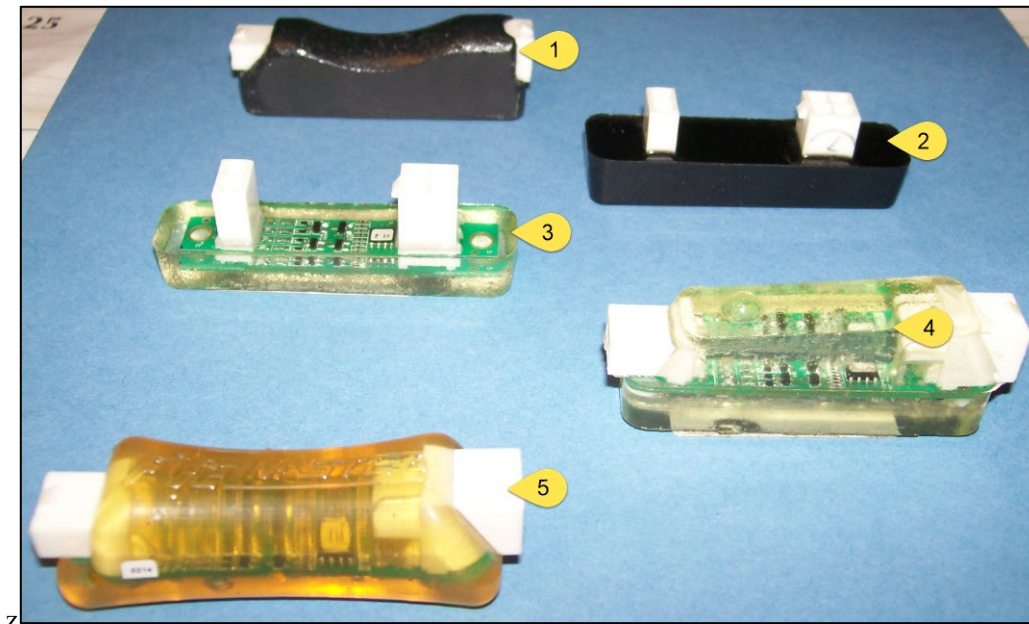


Figure 4. 941B0405 History - Side View/Profile

RFIDIM Images- Bottom View - Version 1 through 5

Version #	Image
1	
2	
3	
4	
<p data-bbox="331 1325 350 1350">5</p> <p data-bbox="233 1562 444 1587">Version 5 Notes</p> <p data-bbox="157 1610 521 1698">Contained the dash number along with the part ID (941B0405-20).</p> <p data-bbox="157 1722 496 1780">Contained the FuelMaster logo on the over-mold.</p>	

TIP

If any questions arise, contact Syntech Systems, Inc.'s Customer Satisfaction Center (CSC) at 1-800-888-9136, ext. 2, or email support@myfuelmaster.com.

Change Log

Date	Description
07/08/2015	Original release
04/25/2022	PSOC changes. Added info about release 941B0405-40. Revised all mention of 'RFIDIB' to 'RFIDIM' where applicable. Edited for conciseness. Reformatted/Rebranded. Fixed figures and reorganized document structure.