

# PRODUCT SPECIFICATION AND MANUAL

2018.08

BUYER / PROJECT	SYMC / C300
BUYER MODEL	Unit Ass'y Body control
COMPANY	MOTOTECH Co., Ltd.
MAKER/NATION	MOTOTECH Co., Ltd./Republic of Korea
DRAFT PART	Research Center
DRAFTER	H.S.Park

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Title	Certification Request Document		
Project Name	C300	Drawn	2018-08-20
		Released	2018-08-20
		Made by	H.S.Park

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## 1. Contents

Type	Weak Signal Equip.
Name	Unit Ass'y Body Control
Use	Utilizing the frequency of 125kHz RFID vehicle anti-theft device
Summary	<p>1. This Equip is designed to prevent car theft.</p> <p>2. This Equip &amp; Transponder communicate encryption algorithm mutually for User Authentication.</p> <p>3. This equipment uses semiconductors and integrated circuits that are designed to have a high reliability.</p> <p>4. Main Power use Regulator VCC of BCM.</p>
Composition	<p>1. LF Base Station</p> <p>2. Bobbin Antenna</p>

## 2. ELECTRONIC SPEC.

item	UNIT	Unit Ass'y Body Control
Rated Voltage		DC 13.5V (TMS3705 DC 5.0V)
Operating Voltage Range		DC 9.0V ~ 16.0V (TMS3705 DC 4.5V~5.5V)
Operating Temp. Range		-30℃ ~ +80℃
Storage Temp. Range		-40℃ ~ +85℃
COIL INDUCTANCE		420uH ± 20(WITH KEY LOCK BODY)
COIL TURNS		95T

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### 3. SPECIFICATION

Type	Unit Ass'y Body Control
Name	Weak Signal Equip.
Equipment List	LF Transmitter-Receiver
Frequency	125KHz
Antenna Type	Type : BOBBIN COIL ANTENNA
Oscillation Method	Crystal oscillation
Local clock frequency	16MHz
Modulation Method	FSK
Communication Scheme	Two-Way Communication
Equipment use	Vehicle Antitheft Equip.
Operating Temp.	DC 13.5V (TMS3705 DC 5.0V)
Operating Voltage	-30℃ ~ +80℃
Weight	BCM : 580g, IMMO ANTENNA : 37g
Dimension	Antenna : External diameter 45mm

### 4. CIRCUIT EXPLANATION

1. After IGNITION, When EMS Data transmitted to the receiver, the received Data is analyzed.
2. After data analyzing, When EMS need to order Write key or Challenge service, U1 send data to U22
3. U22 what are transmitted data by U1 modulate FSK way, and then it transmit transponder via Antenna.
4. Transponder what receive data from U22 reply information what U22 is ordered after processing data
5. Data received from the transponder to reply with U1 and U22 after the demodulation. U1 verify data from U22, and then the results are sent back to EMS.

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**FCC****Part 15.19**

This device comply with part15 of FCC rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device & its accessories must accept any interference received, including interference that may cause undesired operation.

**Part 15.105**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

**Part15.21**

Changes or modifications not expressly approved by the manufacturer (or party responsible) for compliance could void the user's authority to operate the equipment

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