



Right Hand Drive - Combo Radar (RCTA) System



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History

Date	Version	Comments
2022/02/17	V1.0	Initial Version

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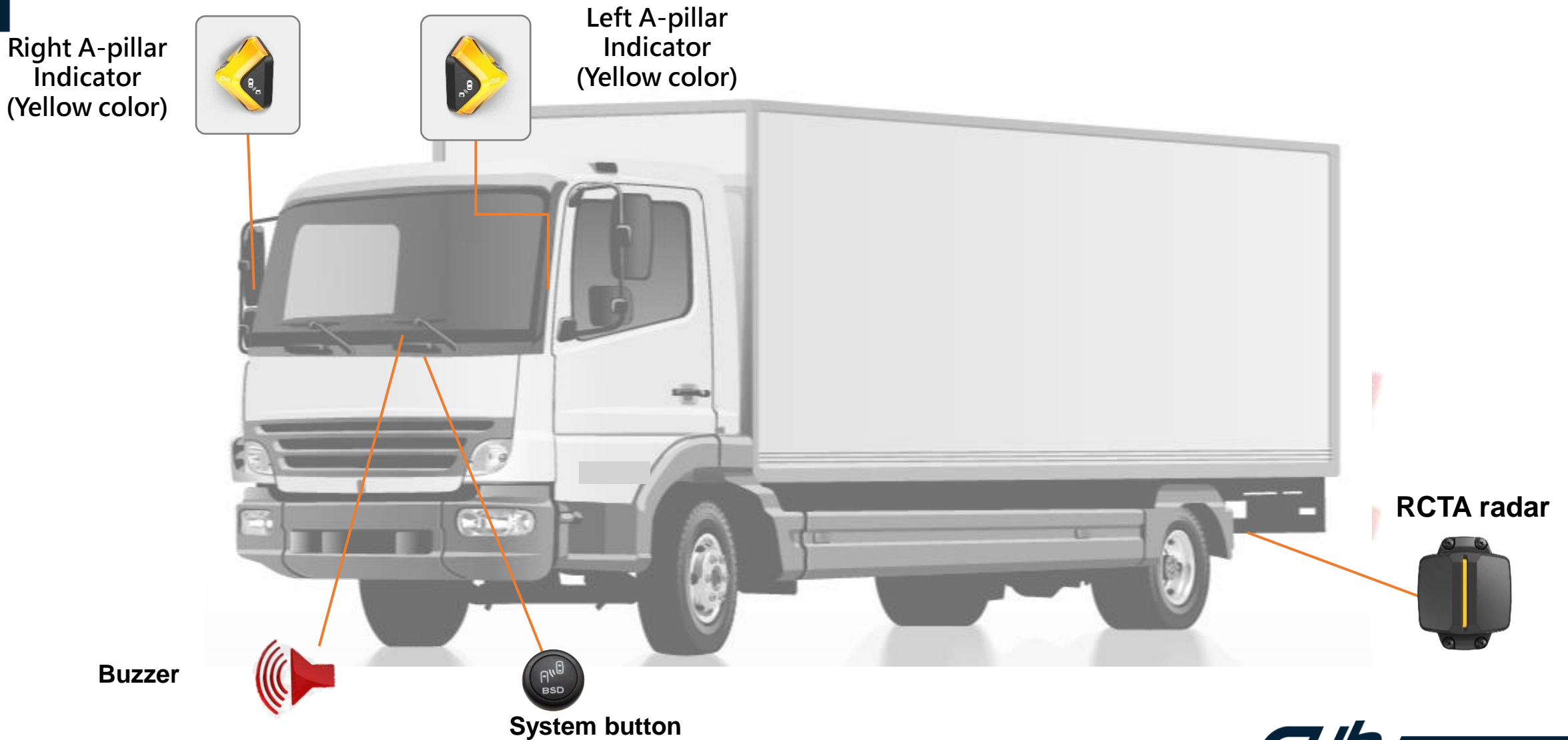
Customer Requirement

- Vehicle type: Right Hand Drive
- Target Market : England
- Customer: AutoSound
- Radar type: Trailer
- System type : Combo * 1 with RCTA function

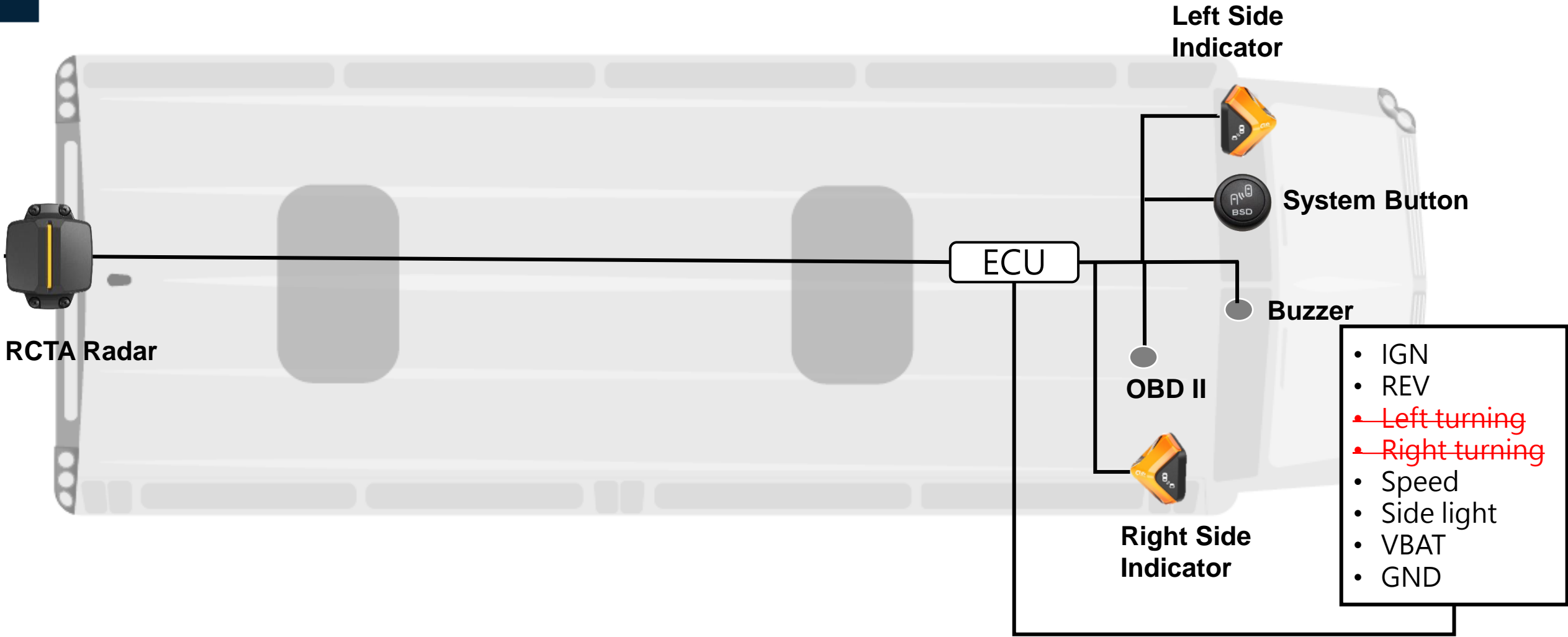
Cub PN : A009-013 (TBD)

- ◆ Radar : B122-010NA1-A2(combo) x 1
- ◆ BSD Indicator : C200-0010NA-A1(Left), C200-0010NA-A2(Right)
- ◆ ECU box : C001-007NA1-A0

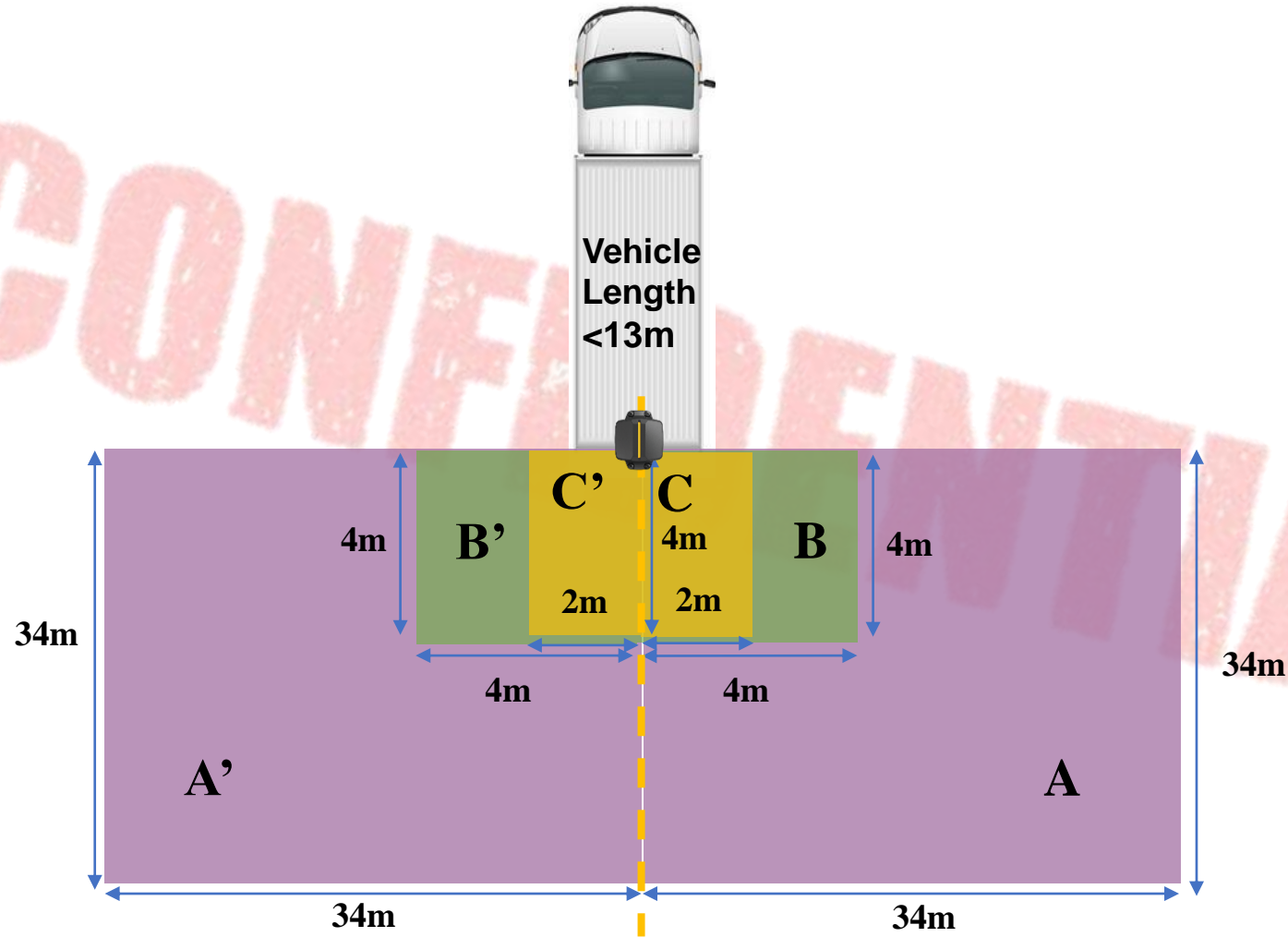
System Structure



System Diagram



Warning Zone – RCTA



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RCTA (Rear Cross Traffic Alert): $0 \leq \text{Speed} \leq 10\text{kph}$

Level	Action	Detection area	Target	Operation	Alarm Criteria
Level 1	BSD constant yellow light	<p>A area : from Radar position toward to right side for 34m and 34m behind the radar.</p> <p>A' area : from Radar position toward to left side for 34m and 34m behind the radar.</p>	Dynamic objects	<ul style="list-style-type: none"> ■ $0 \leq \text{speed} \leq 10$ km/h ■ Reverse gear 	The target is entering the detection area with $\text{TTC} < 2\text{s}$
Level 2	BSD pulsing yellow light	<p>B area : from Radar position toward to right side for 4m and 4m behind the radar.</p> <p>B' area : from Radar position toward to left side for 4m and 4m behind the radar.</p>	Dynamic objects		The target is in the detection area, and the alarm action is normal
Level 3	BSD pulsing yellow light + buzzer	<p>C area : from Radar position toward to right side for 2m and 2m behind the radar.</p> <p>C' area : from Radar position toward to left side for 2m and 2m behind the radar.</p>	Dynamic objects + Static objects		The target is in the detection area, and the alarm action is normal

*Dynamic objects: The speed difference between the target and the vehicle must be greater than $\pm 3\text{kph}$

*Relative speed: $\pm 60\text{kph}$

System Operation

System status	Indicator 	Buzzer 
System start/restart	Long on for 3 sec	Long beep 3 sec
System off (via button)	Flashes 2 times	2 short beeps
System off (ACC OFF)	No	No
Combo radar failure/system failure	Constant light	DO RE MI

※ If the fault is not eliminated, the system will give an alarm every five minutes.

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Product Spec



System Spec

Item	Description
Frequency	76~77 GHz
Operating Temperature	-40° ~ 85°
Storage Temperature	-40° ~ 85°
Supply Voltage	12V/24V
Operating Current	< 680mA @ 13.5V ; < 460mA @ 27V
Certification	NCC

Combo Radar Spec

Item	Description
Frequency	76~77 GHz
Operating Temperature	-40° ~ 85°
Storage Temperature	-40° ~ 85°
Ingress Protection	IP67
Supply Voltage	9 ~ 32 V
Operating Current	< 440mA @ 13.5V ; < 220mA @ 27V ;
FOV (Single Side)	Horizontal : ± 60° · vertical : ± 12°
Frame rate	20Hz
Distance Accuracy	± 0.15 m
Speed Accuracy	± 0.5 kph



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Indicator Spec

Item	Description
Operating Temperature	-40° ~ 85°
Storage Temperature	-40° ~ 85°
Supply Voltage	9 ~ 32V
Operating Current	Max 0.07A @16v
Size	38.4*56.95*38.75mm
Light Color	Yellow



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ECU Spec

Item	Description
Operating Temperature	-40° ~ 85°
Storage Temperature	-40° ~ 85°
Supply Voltage	9 ~ 32V
Operating Current	Max 100mA@9~32V



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Thank you!