

## Compact Draw Wire Sensor

DIGITAL ADVANCED SENSORS **DAS**

# DWSmini

DWSmini is draw wire distance sensor that mount high precise potentiometer with compact-size outer housing.

DWSmini is mainly applied for sensing and measuring length of outrigger of heavy equipments and special vehicles by its compact-size, waterproof and high strength housing design.

CANopen protocol now available : constitute CAN network with length sensors for outrigger of mobile vehicle.

- Voltage divider circuit consisted by potentiometers
- Nylon coated stainless steel wire
- Compact-size for easy to design and installation.
- High strength plastic housing for using in rough environments



**CANopen**

### General Specifications

Item	Specification
Max. Length	1.5m / 2m / 3m
Potentiometer	500 ... 4,000 ohm
Voltage Output	10 ... 80% of Power source
Digital Output	CANopen
Power Source	5 ... 30VDC
Non-Linearity	0.25% FS
Repeatability	below 10 mm
Wire	Nylon coated Stainless steel
Thickness	1.0 mm
Durability	over 20,000 times
Operating Temp.	-20 ... +70 celsius
Waterproof	IP65
Dimensions	W65 x H65 x D40mm
Weight	150g
Connector	Delphi 1216-2833

### Data Descriptions

$$\text{Length} = \left( \frac{\text{Maximum Length}}{\text{Output V Range}} \right) \times (\text{Output V})$$

Output V Range : 80% - 10% of Power source

e.g. Max. Length 3m, 12V Power source, Output 7V,

$$= \left\{ \frac{3m}{(12 \times 90\%) - (12 \times 10\%)} \right\} \times 7 = 2.5m$$

### CAN Protocol

- 1) Birtate : 500 kpbs
- 2) Transmit Interval : 10ms
- 3) Transmit Start : Automatically
- 4) Default COB ID (HEX) : 0x0A
- 5) Output data includes only angular data.
- 6) Refer each protocol manual for CANopen and SAE-J1939.

※ [CANopen Inclinator Protocol](#)

### Wiring Connections

DWSmini series is designed for Delphi Automotive 1216-2833 plug. Harness can be ordered optionally for wiring.

Image	Color	Analog	CANbus
	<b>1</b> RED	V+	
	<b>2</b> GREEN	OUT+	CAN H
	<b>3</b> WHITE		CAN L
	<b>4</b> BLACK	GND (COM)	

Analog output doesn't use the white wire.

### Ordering Code

Format : DWSmini-(1)-(2)-(3)

(1)	—	Analog	CO	CANopen		
(2)	15	1.5m	20	2.0m	30	3.0m
(3)	L	Left	R	Right		

Wire drawing direction when see the front

e.g. DWSmini-15-L / DWSmini-CO-30-R

### **Options**

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Plug Harness : Delphi 1216-2833

### **NOTES**

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- 1) *DWS is designed for operating at low speed wire drawing condition. It may behind its durability If high speed drawing is repeated.*
- 2) *Immoderate drawing may cause damages of internal spring and wire.*
- 3) *Check wiring connections before use.*
- 4) *12 months warranty is provided after released. Warranty provided only in case of using for designed purpose correctly.*
- 5) *Specifications, design and components can be changed without prior notice to improve its performances.*

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