

Patented in Japan

International Patent pending

Real-time measurement of angle and velocity
by branching resolver signal lines in a state-controlled motor system.

RSM-100

Resolver system measuring instrument



Capable of detecting resolver signals in the control state
without affecting control or connected measuring
instruments which was previously impossible.

Branch detection

Detection without affecting control signals.

Angle/velocity measurement

R/D conversion and analog voltage output of resolver signal
detected by branching.

Corresponding shaft angle multiplication

Compatible with $\times 1$ to $\times 20$

Compatible with high velocity rotation

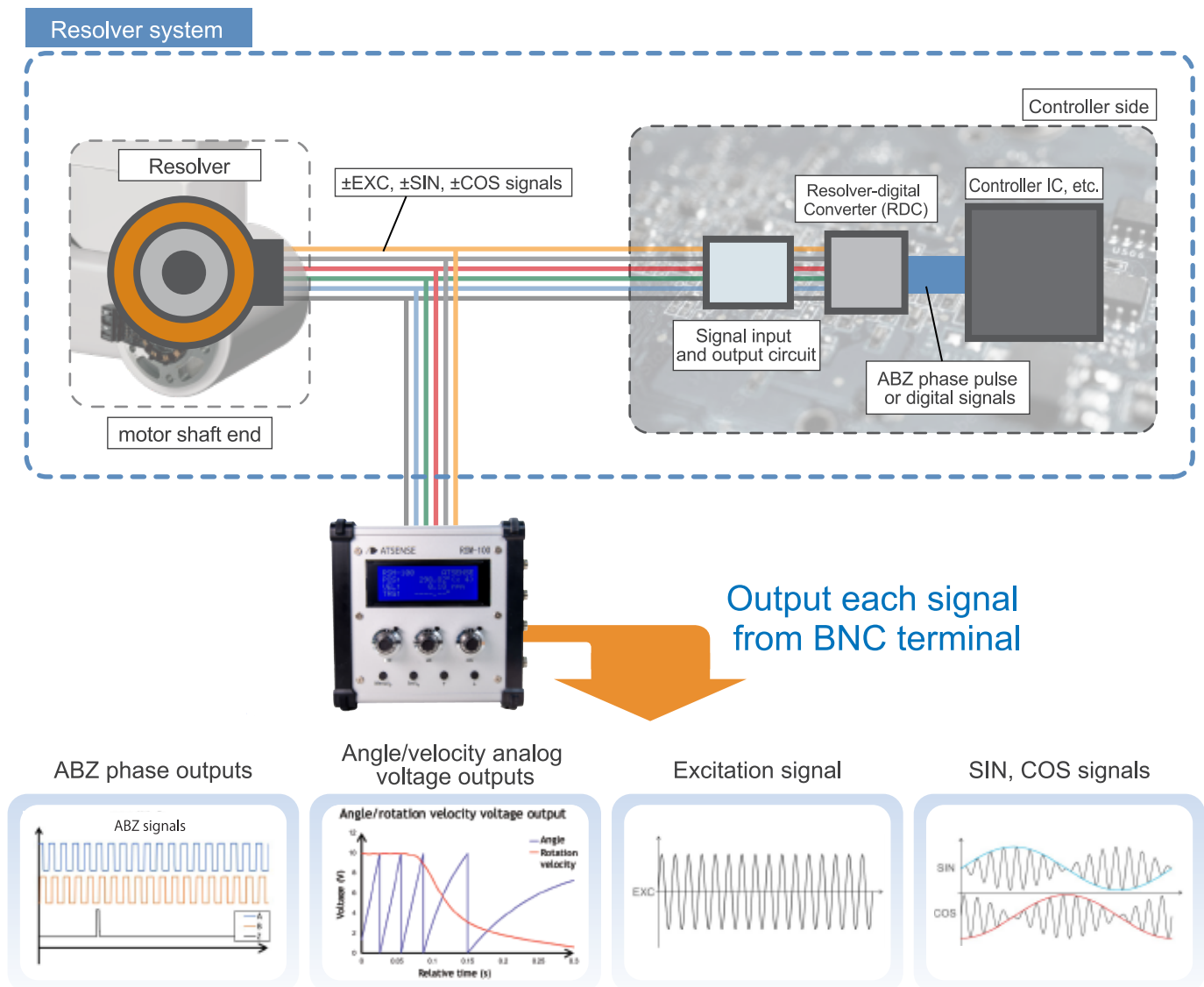
Compatible up to 60000r/min (electrical angle)



ATSENSE INC.

Capable of converting the signals branched from the resolver signal line of the system consisting of a resolver and

an R/D converter into A, B, Z pulses and analog voltage proportional to angle/velocity and furthermore of outputting excitation, SIN, and COS signals.



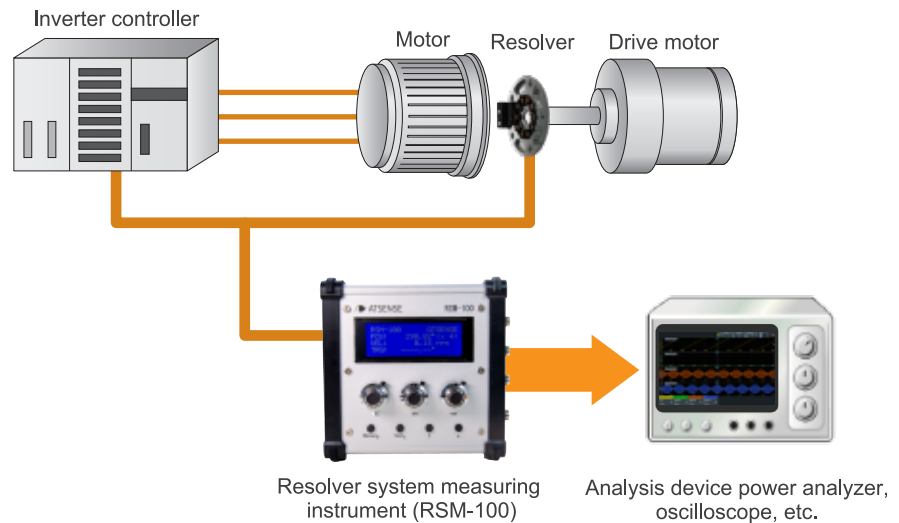
Branch detection of resolver signals

Typical resolver signals are floating signals, so simply branching them with passive probes or clips may cause insufficient excitation current due to an increase in current paths, and noise inflow due to GND connection of another device, etc. Thus, it will affect the signals and measurement of the existing measuring system and result in the impossibility of measurement.

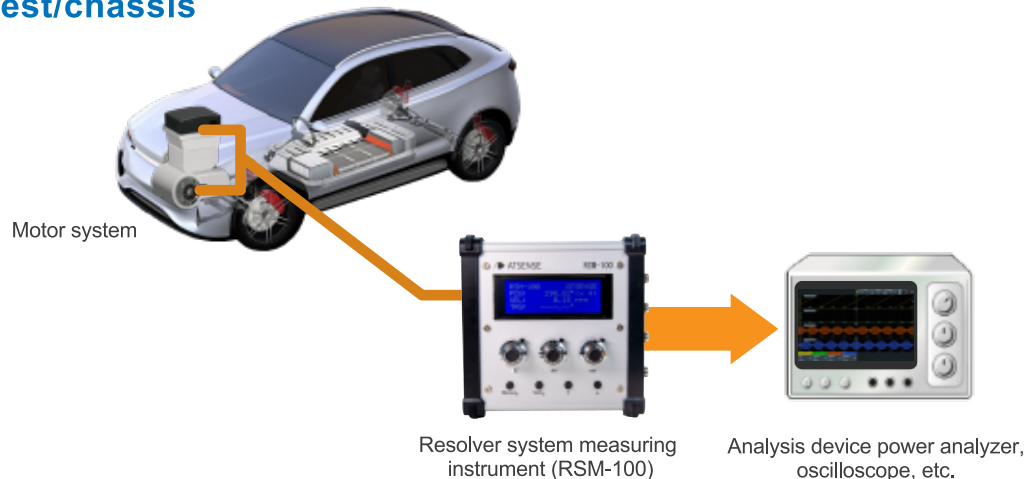
Our device with a high impedance detection section will make it possible to branch and measure resolver signals without affecting the existing system.

Measurement examples

Motor bench



Driving test/chassis



Application examples

Benchmark

Capable of utilizing the real-time angle/velocity data by branching resolver signals when performing measurements of motor systems manufactured by other companies or whose origins are unknown,

Control sequence study and mapping verification

Capable of utilizing the angle/velocity data from the resolver signals used for controlling the motor.

Actual vehicle test

Capable of utilizing the angle/velocity data by branching resolver signals even in narrow spaces where it is difficult to install a rotation sensor,

Utilization for performance evaluation of motors and e-axes

No need to install a rotary encoder on the drive side of the motor bench. Applicable for higher resolution/higher rotation range than a rotary encoder. Compatible with e-axes where the axis cannot be extended. Capable of inputting the output signals from this device to a power analyzer, etc.

Simultaneous measurement with sound and vibration signals

Simultaneous measuring is achieved by using ABZ pulse output from this device or analog/velocity analog voltage output.

Malfunction investigation

To be utilized when wanting to check resolver signals in case of motor system malfunction.

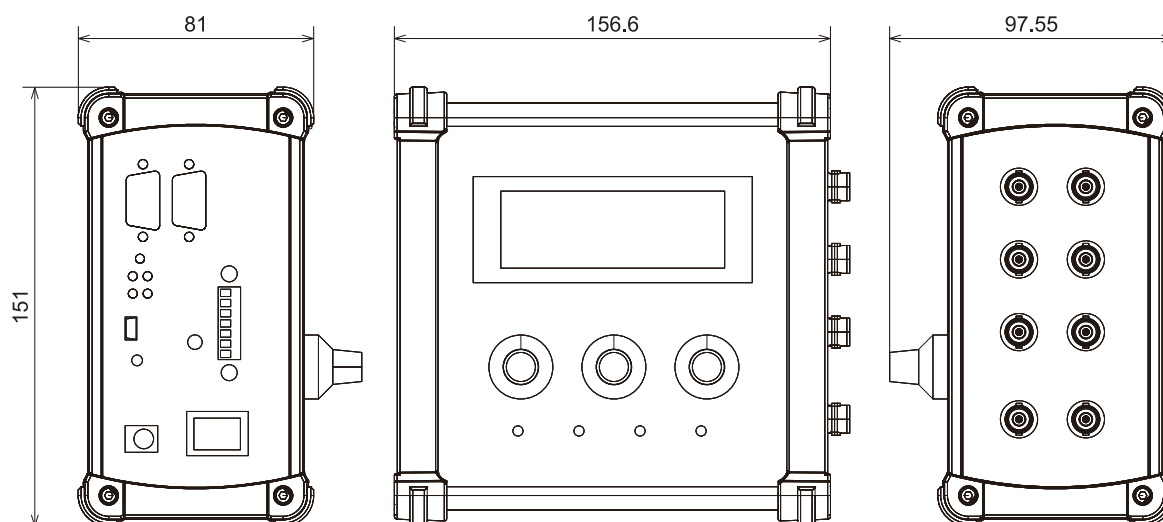
Specifications : Resolver system measuring instrument RSM-100

resolver	
type	amplitude modulation type
shaft angle multiplication	X1 ~ X20 (arbitrary setting possible)
resolver signal input	
signal type	differential or single ended
kind of signals	excitation signal (sine wave) sine-modulated and cosine-modulated excitation signals
excitation signal frequency	10kHz ~ 20kHz (Pulse deteriorates below 10kHz)
input impedance	200GΩ (maximum)
voltage limit excitation signal	40Vp-p (differential maximum)
sin,cos signals	16Vp-p (differential maximum)
resolver measurement	
rotation speed range	0 ~ 60000r/min
angular resolution (electrical angle)	12bit
delay time	8 ~ 12μs
filter	50kHz low pass filter
external input signal (event input)	
voltage range	±10V
threshold	selectable from ±9.9V

digital output	
voltage	0 ~ 5V
pulse rate	12bit/rev for electrical angle (1024 pulse/rev)
analog output	
output change time	about 10μs
output resolution	16bit
angle voltage output voltage	0 ~ 5V or 0 ~ 10V or ±5V or ±10V
angle scale	0 ~ 360° or ±180°
speed voltage output voltage	±5V or ±10V
velocity scale	1 ~ 100000r/min
monitor signal voltage range	0 ~ 5V
output signal	excitation, sine, cosine
general specifications	
PC communication	USB (USB-serial bridge)
isolation specification	power supply - ground - analog and digital output GND - resolver GND
power supply	DC12V (10 ~ 18V)
body case	EMC-measured aluminum case
external dimensions	W151×D157×H98 mm (including protrusions)
weight	about 1.1kg
operating temperature range	0 ~ 40°C (no condensation)

External dimensions

(mm)



The specifications, appearance, etc. listed in this catalog are subject to change without notice due to product improvement.

ATSENSE 24.5.20

ATSENSE INC.
 ATSENSE
 Akiyama bldg., 6-10
 Nishigokencho, Shinjuku, Tokyo 162-0812, JAPAN
 Phone +81-3-5206-8641 Fax +81-3-5206-8640
 URL www.atsense.jp E-mail sales@atsense.jp



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いま選ぼう。

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