

## World In-Vehicle Current Sensor Market: Key Research Findings 2012

- The demand for current sensors expands as the importance of power management increases for fuel economy improvement-

### ◆ Research Outline

Yano Research Institute has conducted a study on the world in-vehicle current sensor market as described below.

1. Research period: October 2011 to April 2012
2. Research targets: Current sensor manufacturers and vehicle system manufacturers
3. Research methodologies:  
Face-to-face interviews by YANO expert researchers, telephone and mail interviews, and literature researches

#### <What is in-vehicle current sensor?>

In this research, the in-vehicle current sensor is defined as all current sensors installed on all passenger cars and commercial vehicles with a curb weight up to 3.5 tons, and used for 4 applications, accessory battery monitoring, and main battery monitoring, motor control and in-vehicle charging unit of next generation vehicles (HEV: hybrid vehicle, PHEV: plug-in hybrid vehicle and EV: electric vehicle).

### ◆ Key Findings

- **The world in-vehicle current sensor market in 2011 was 20.4 billion yen. Based on the installation of fuel economy improvement technologies on the vehicles and popularization of xEV (next generation vehicles), the market will grow constantly and reach 54.8 billion yen (2.7 times compared to 2011) in 2020.**

The world in-vehicle current sensor market in 2011 was about 24.71 million pieces in volume and 20.4 billion yen in value based on the shipments from manufacturers. In automobile development, the introduction of electrification and electronic control systems for fuel economy improvement has become a major trend, and the importance of power management with current sensor is increasing. The world in-vehicle current sensor market is expected to reach 98.3 million pieces in volume (4.0 times against 2011) and 54.8 billion yen in value (2.7 times against 2011) in 2020.

- **The average annual growth rate (CAGR) of world in-vehicle sensor market from 2011 to 2020 is expected to be 23.4 percent for xEV applications and 9.8 percent for accessory battery monitoring.**

Observing the market by application, the world current sensor market for xEV (battery monitoring, motor control and in-vehicle charging) will grow substantially, over 20 percent annually due to the expansion of xEV (next generation vehicles) market. For the total of xEV related applications, the market size in 2011 was 1.7 billion yen, but expected to reach 11.6 billion yen in 2020, 6.6 times of the size in 2011. The market for accessory battery monitoring, in the meantime, is expected to grow from 18.6 billion yen in 2011 to 43.2 billion yen in 2020, 2.3 times of the size in 2011.

### ◆ Report format:

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Price: 130,000 yen (6,500 yen of consumption tax shall be charged for the sales in Japan.)

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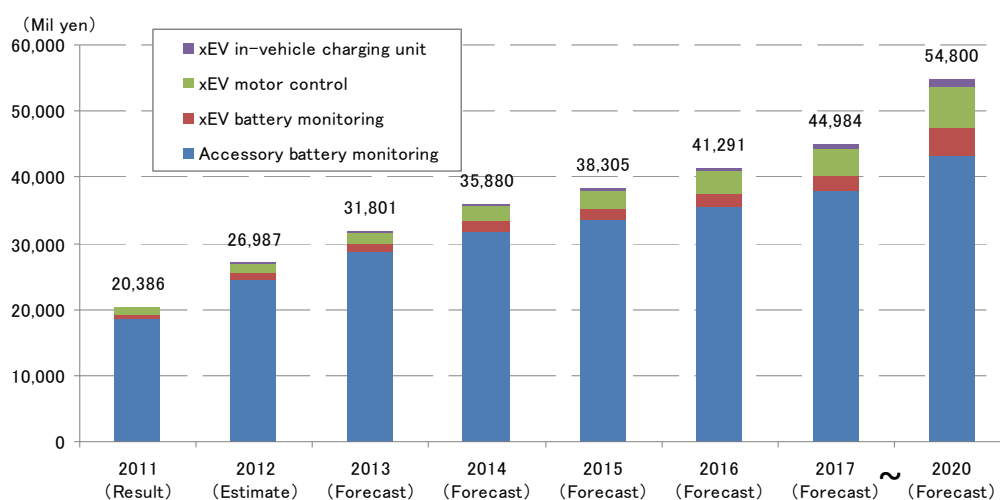
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Table/Graph 1: World In-vehicle Current Sensor Market Forecast (by Application)

(Unit: Million yen)

	2011 (Result)	2012 (Estimate)	2013 (Forecast)	2014 (Forecast)	2015 (Forecast)	2016 (Forecast)	2017 (Forecast)	2020 (Forecast)	CAGR
Accessory battery monitoring	18,640	24,570	28,740	31,860	33,520	35,430	37,800	43,230	—
Year-on-year	—	131.8%	117.0%	110.9%	105.2%	105.7%	106.7%	—	9.8%
xEV battery monitoring	649	890	1,107	1,432	1,707	2,102	2,586	4,126	—
Year-on-year	—	137.0%	124.4%	129.3%	119.2%	123.2%	123.0%	—	22.8%
xEV motor control	1,075	1,450	1,820	2,361	2,772	3,336	4,053	6,347	—
Year-on-year	—	134.8%	125.5%	129.7%	117.4%	120.3%	121.5%	—	21.8%
xEV in-vehicle charging unit	22	77	133	227	306	423	545	1,097	—
Year-on-year	—	358.8%	172.1%	170.9%	134.7%	138.0%	128.9%	—	54.8%
Total	20,386	26,987	31,801	35,880	38,305	41,291	44,984	54,800	—
Year-on-year	—	132.4%	117.8%	112.8%	106.8%	107.8%	108.9%	—	11.6%



(Estimated by Yano Research Institute)

Note 1: Values are based on the shipment from manufacturers

Note 2: In this research, the in-vehicle current sensor is defined as all current sensors installed on all passenger cars and commercial vehicles with a curb weight up to 3.5 tons, and used for 4 applications, accessory battery monitoring, and main battery monitoring, motor control and in-vehicle charging unit of next generation vehicles (HEV: hybrid vehicle, PHEV: plug-in hybrid vehicle and EV: electric vehicle).

Note 3: For the accessory battery monitoring, both Hall type current sensor and Shunt resistor type intelligent battery sensor with battery status detection function are included.

Note 4: (Projection) indicates projected/estimated figures, and (Forecast) forecasted figures.

Note 5: CAGR indicates compound annual growth rate from 2011 to 2020.

Note 6: There may be discrepancies in the numbers due to rounding.