

# Empowering Independence in IoT

We develop the independence  
in connected living.



[www.varta-ag.com/iot](http://www.varta-ag.com/iot)



**VARTA**

# Empowered by VARTA



Source: Disruptive Technologies

## WIRELESS SENSORS

They are designed to make our everyday lives easier and more convenient by connecting several components with each other, thus ensuring an intelligent exchange of data between the devices.

### Example of use:

Smart buildings, facility management, smart workplaces, smart manufacturing, warehousing etc.



### Window Sensors

Window sensors monitor exactly which windows (and/or doors) are opened and closed and can give immediate notification to any device wanted.

### Example of use:

Security, smart homes etc.



### Security Systems

Security systems protect us by either securing entry points like doors and windows, tracking our valuables or detecting environmental danger.

### Example of use:

Smoke alarm devices, wireless alarm systems, motion detectors, security systems for cash transport and installations, electronic bracelets etc.



## SMART GLASSES

Smart glasses and virtual reality systems communicate unobtrusively with the user and allow new approaches e.g. in the areas of gaming, entertainment, industrial and even medical.

**Example of use:**

Product design, repair and maintenance, entertainment, surgical operations etc.



### Smart Watches

The extension of our smart-phones: A digital watch that communicates directly with the phone, has a touchscreen display and also several apps included.



### Smart Keys

The next generation of smart key fobs communicates with other systems and provides advanced functionalities.

# ELECTRONIC SHELF LABELS

Electronic shelf labels or digital price tags are a future trend. They are a self-updating, environment scanning and interactive technology to create an overall better information and customer experience.

## Example of use:

Retailers, stores, industry, logistics, warehousing and transport



## Logistics Sensors

They play an important role in improving the efficiency, safety, and accuracy of logistics operations. Sensors help logistics companies better manage their supply chains, reduce the risk of damage or loss and meet regulatory requirements, particularly in industries with strict quality and safety standards.

### Example of use:

Warehousing, smart workplaces, smart manufacturing



## Parking Sensors

They are a valuable safety feature, especially in situations where visibility is limited, such as parallel parking or navigating tight spaces. They can help drivers avoid accidents, reduce the risk of collisions with stationary objects and make parking more comfortable.

### Example of use:

Smart cities, parking facilities



# VARTA batteries shape the future of IoT

## Application areas of VARTA batteries in IoT connected devices and systems

- Smart Home
- Smart Metering
- Security
- Wearables
- IT / Communications
- Industrial
- Consumer
- Medical
- Automotive Applications

## Our batteries support the communication of the following network standards

- Sigfox
- NB IoT
- LPWAN
- LTE
- Wireless Mbus

## Battery expert service

- Optimal battery selection
- Battery design-in support
- Advanced battery specification
- Application tests
- Qualification / approvals

## Your benefits

- Premium energy
- High-level safe products
- UL recognition
- Top performance with wide temperature range
- Superior shelf life and operational life
- High energy density
- Low self discharge
- Resistance to corrosive environments
- Patented mass production know-how
- Standard and customized solutions
- Wide range of application knowledge

# Concentrated energy for many kinds of IoT devices

The Internet of Things can make life easier and reinvent the way people interact with the physical world. With batteries from VARTA all requirements for devices

and systems are created to network and interact in IoT. We provide several battery technologies for IoT connection of a device.

## Product overview of batteries for IoT applications

### Rechargeable batteries

#### Rechargeable Button Cells (Li-Ion) CoinPower

TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
<b>A-Version</b>								
CP1654 A4X	63165	3.7	145	16.1	5.4			3.2
CP1454 A4X	63145	3.7	108	14.1	5.4			2.4
CP1254 A4X	63125	3.7	74	12.1	5.4			1.6
CP1254 A5X	63125	3.7	80*	12.1	5.4			1.8
CP1250 A4X	63121	3.7	62	12.1	5.0			1.6
CP1240 A4X	63124	3.7	50	12.1	4.0			1.3
CP1054 A5X	63105	3.7	49	10.1	5.4			2.4
CP9440 A4X	63094	3.7	29	9.4	4.0			0.8
<b>C-Version</b>								
CP1054 C1	65105	3.85	48	10.1	5.4			1.2
<b>F-Version</b>								
CP7840 F1	68074	3.3	12.2	7.8	4.0			0.5

Further types on request.  
\* Tentative values.

#### Rechargeable Button Cells (NiMH)

TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
<b>V...HT robust85C</b>								
V 65 HT	55707	1.2	70	15.5	6.00			4.00
V 150 HT	55716	1.2	150		5.85	14.1	25.6	6.00
<b>V...HRT powerful85C</b>								
V 18 HRT	55802	1.2	19	11.5	2.30			0.90
V 500 HT	55750	1.2	510		6.60	24.2	34.1	14.00
V 600 HRT	55860	1.2	600		6.80	24.1	34.1	14.50

Not all product types are available at the time of printing.  
Voltage and Capacity indicated refer to nominal and typical values respectively.

#### 9V Battery (NiMH)

TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
V 7/8 H	05622	8.4	150		15.7	48.5	26.6	47.0
HR 9 V	56722	8.4	200		17.5	48.5	26.5	36.0

### Primary batteries

#### Silver Oxide Button Cells (Ag<sub>2</sub>O)



TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
<b>Mercury-free</b>								
V 301 MF	20301	1.55	82	11.6	4.20			1.78
V 303 MF	20303	1.55	160	11.6	5.40			2.33
V 309 MF	20309	1.55	73	7.9	5.40			1.08
V 315 MF	20315	1.55	20	7.9	1.65			0.33
V 317 MF	20317	1.55	10.5	5.8	1.60			0.18
V 319 MF	20319	1.55	21	5.8	2.66			0.29
V 321 MF	20321	1.55	14.5	6.8	1.65			0.25
V 329 MF	20329	1.55	37	7.9	3.10			0.60
V 335 MF	20335	1.55	6	5.8	1.25			0.15
V 337 MF	20337	1.55	9	4.8	1.65			0.13
V 339 MF	20339	1.55	12	6.8	1.40			0.21
V 341 MF	20341	1.55	15	7.9	1.45			0.28
V 344 MF	20344	1.55	105	11.6	3.60			1.49
V 346 MF	20346	1.55	10	7.9	1.29			0.30
V 350 MF	20350	1.55	105	11.6	3.60			1.49
V 357 MF	20357	1.55	145	11.6	5.40			2.33
V 361 MF	20361	1.55	22	7.9	2.10			0.40
V 362 MF	20362	1.55	21	7.9	2.10			0.40
V 364 MF	20364	1.55	17	6.8	2.15			0.31
V 370 MF	20370	1.55	30	9.5	2.10			0.57
V 371 MF	20371	1.55	30	9.5	2.10			0.61
V 373 MF	20373	1.55	28	9.5	1.60			0.50
V 377 MF	20377	1.55	21	6.8	2.60			0.34
V 379 MF	20379	1.55	15	5.8	2.15			0.23
V 381 MF	20381	1.55	49	11.6	2.10			0.90
V 384 MF	20384	1.55	37	7.9	3.60			0.69
V 386 MF	20386	1.55	115	11.6	4.20			1.78
V 389 MF	20389	1.55	81	11.6	3.05			1.31
V 390 MF	20390	1.55	59	11.6	3.05			1.32
V 391 MF	20391	1.55	42	11.6	2.10			0.90
V 392 MF	20392	1.55	40	7.9	3.60			0.69
V 393 MF	20393	1.55	77	7.9	5.40			1.08
V 394 MF	20394	1.55	58	9.5	3.60			1.04
V 395 MF	20395	1.55	38	9.5	2.70			0.68
V 396 MF	20396	1.55	32	7.9	2.60			0.55
V 397 MF	20397	1.55	23	7.9	2.60			0.50
V 399 MF	20399	1.55	42	9.5	2.70			0.75

## VARTA Alkaline INDUSTRIAL PRO

TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
<b>LR 03</b>								
Micro/AAA/AM 4	04003	1.5	1270	10.5	44.5			11
<b>LR 6</b>								
Mignon/AA/AM 3	04006	1.5	2970	14.5	50.5			23
<b>LR 14</b>								
Baby/C/AM 2	04014	1.5	7800	26.0	50.0			69
<b>LR 20</b>								
Mono/D/AM 1	04020	1.5	17000	34.0	61.0			141
<b>6 LR 61</b>								
E-Block/6 AM 6	04022	9.0	640		17.5	48.5	26.5	46

## Lithium Button Cells (Li-MnO<sub>2</sub>)

TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
<b>CR coin series</b>								
CR 1216	6216	3.0	27	12.5	1.6			0.7
CR 1220	6220	3.0	35	12.5	2.0			0.8
CR 1616	6616	3.0	55	16.0	1.6			1.2
CR 1620	6620	3.0	70	16.0	2.0			1.2
CR 2016	6016	3.0	90	20.0	1.6			1.8
CR 2025	6025	3.0	165	20.0	2.5			2.5
CR 2032	6032	3.0	230	20.0	3.2			3.0
CR 2430	6430	3.0	300	24.5	3.0			4.0
CR 2450	6450	3.0	620	24.5	5.0			6.2
CR 1/3 N	6131	3.0	170	11.6	10.8			3.0

## Lithium Cylindrical Cells (Li-MnO<sub>2</sub>)

TYPE DESIGNATION	TYPE NO.	VOLTAGE (V)	CAPACITY (mAh)	DIAMETER (mm)	HEIGHT (mm)	LENGTH (mm)	WIDTH (mm)	WEIGHT (g)
<b>CR mass/bobbin series</b>								
CR 1/2 AA	6127	3.0	950	14.75	25.1			11.5
CR 2/3 AA	6237	3.0	1350	14.75	33.5			15.0
CR AA	6117	3.0	2000	14.75	50.5			21.5
<b>CR coiled series</b>								
CR 2	6206	3.0	850	15.60	27.0			11.0
CR 123 A	6205	3.0	1550	17.00	34.5			17.0
CR 1/2 AAH-R	6213	3.0	850	14.22	25.0			9.0
CR 2/3 AH-R	6214	3.0	1600	17.00	33.5			17.0
CR AH-R	6217	3.0	2400	17.00	45.0			23.0

## ULTRA LITHIUM

### Lithium 1.5V AA & AAA and 9V

FR AAA 1.5V	6103	1.5	1100	10.5	44.5			7.3
	101							
	501							
FR AA 1.5V	6106	1.5	3000	14.0	50.5			15.0
	101							
	501							
CR block 9V	6122	9.0	1150		17.5	49.0	26.5	41.5
	101							
	501							

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