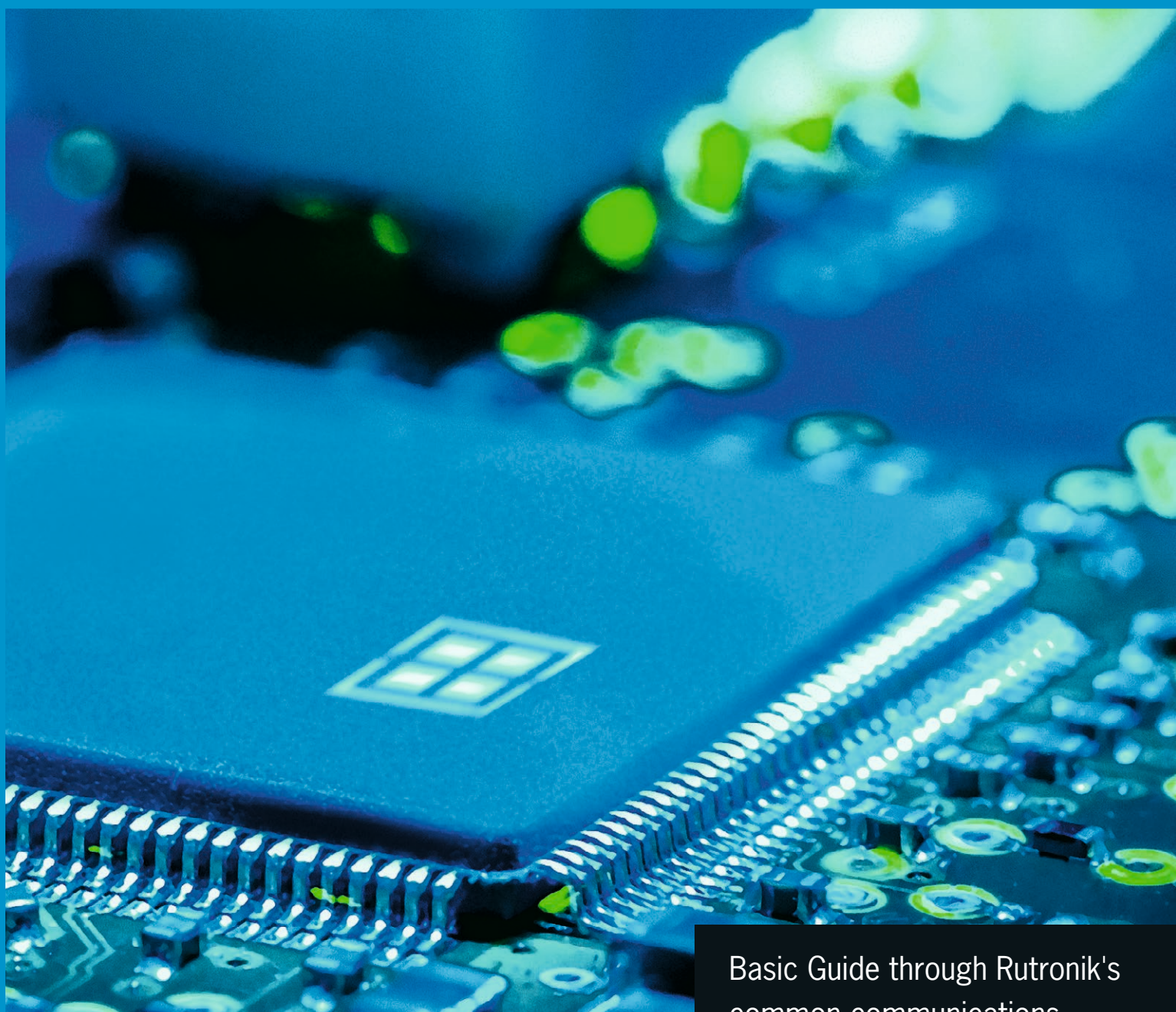


Committed to excellence



RUTRONIK
ELECTRONICS WORLDWIDE



Basic Guide through Rutronik's
common communications
channels

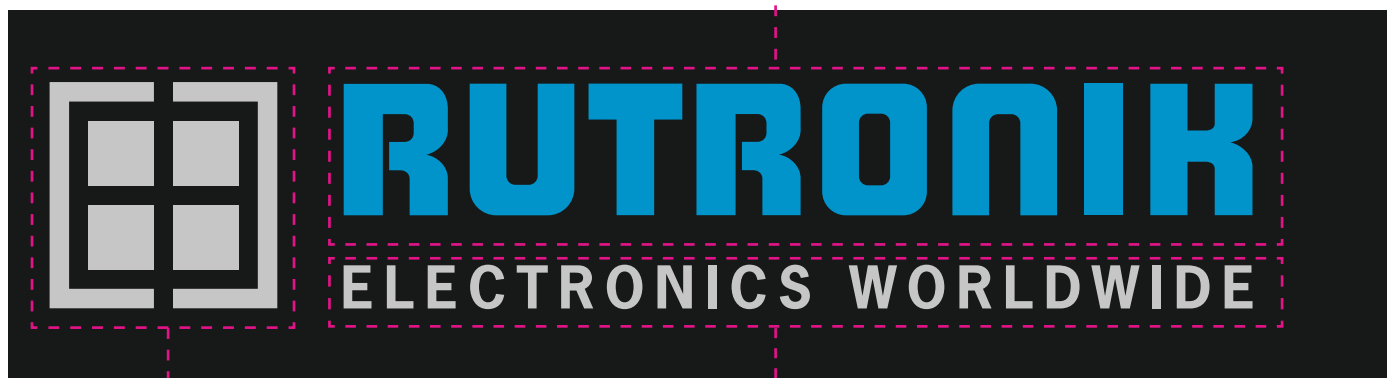
V1.4

Corporate Identity. Manual.

MAIN Logo – Description

The brand Rutronik with its claim visualizes the philosophy of the owner Helmut Rudel associated with modern structures of a worldwide operating distribution company, well-positioned for the future.

1 Company Name

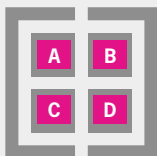


2 Global Distribution

Worldwide shipping and support according to German quality standards

3

Rutronik's Core Competences



A Consult – Know-how. Built-in.

The Technical Competence from RUTRONIK

Worldwide and individual consulting on the spot: by competent sales staff, application engineers and product specialists.

B Components – Variety. Built-in.

The Product Portfolio from RUTRONIK

Wide product range of semiconductors, passive and electromechanical components, displays & monitors, boards & systems, storage and wireless technologies for optimum coverage of your needs.

C Logistics – Reliability. Built-in.

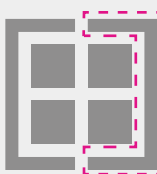
The Delivery Service from RUTRONIK

Innovative and flexible solutions: from supply chain management to individual logistics systems.

D Quality – Security. Built-in.

Quality Management without Compromise

The integrated management system (IMS) encompasses quality control, environmental protection and occupational health and safety.



The brackets combine Rutroniks core competences:
All from one single source

Committed to excellence

This entire slogan coined by founder Helmut Rudel remains the guiding principle for Rutronik. This performance contributes to the maximal satisfaction of customers – day by day.

MAIN Logo

Color Definition

100c 20m 0y 0k
HKS 47 K
Pantone 3005U
RAL 5015 Sky blue
RGB: 0R 139G 210B

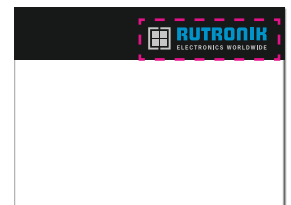


0c 0m 0y 30k
HKS 91
Pantone Cool Gray 6
RAL 7035 Fenstergrau
RGB 178R 178G 178 B

Usage: **Primary of homogen black backgrounds !**
Further possible: in almost homogen backgrounds
placed at dark areas of colour gradients



Main Position: **Preferred, on top right side of a page**



Logo Variants and their Use

Alternative of White and Bright Backgrounds



0c 0m 0y 55
HKS 92
Pantone Cool Gray 9
RAL 9007 Window grey

100c 20m 0y 0k
HKS 44
Pantone Process Blue
RAL 5015 Sky Blue

0c 0m 0y 65
HKS 92
Pantone Cool Gray 9
RAL 9007 Window grey

Logo: Monochrome Black



Logo: Negative



Don'ts & Exceptions

Incorrect Usage

Our corporate logo is an important asset of our brand and must never be altered or misused in any way.



Exceptions:

Exceptions are only permitted after consultation and extra approval: e.g.

- Small areas not larger as l=15mm; w=7 mm (like USB Sticks, engravings of not straight surfaces...)
- If other solutions would be in relation too expensive
- If other solutions result in bad quality



Picture Pool

Stock Photo Agencies

Please note: copyrights, usage rights and/or license conditions might apply

- Fotolia: <https://de.fotolia.com/Info/HowToBuy/SizeAndLicenses>
- Depositphotos: <http://de.depositphotos.com/license-comparison.html>
- Bigstock: <http://www.bigstockphoto.com/de/usage.html>
- Dolloar Photo Club: <https://www.dollarphotoclub.com/Info/RoyaltyFreeLicense>
- 123RF: http://de.123rf.com/license_summary.php

Licences our Stock Photo Agencies:

- Standard Licence: Nearly **all** of our available stock images belong to this category.
general usage: Presentation & flyers
- Extended Licence: for press releases in editorial publication & in social networks

T:\vorlagen\Picture Pool\Images with license terms

Rutronik Image & Applications: > Stockphotos: Focus Image, Lifestyle, People



!Fotolia_3213011...



Auto cockpit Foto...



Fotolia_2565308...



Fotolia_2791509...



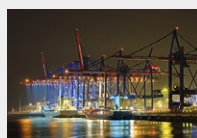
Fotolia_2841829...



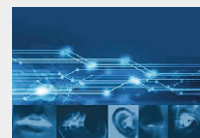
Fotolia_3225213...



fotolia_38393558...



Fotolia_4244400...



fotolia_47783336...



123RF_2078957...



Fotolia_3880651...



Fotolia_4597769...



Fotolia_8666791...

Please consider the licence requirements and copyright laws of the respective stock companies.

Key Colours

Basic Colours



Rutronik Blue

CMYK: 100, 20, 0, 0
RGB: RGB: OR 139G 210B
Rut_Code: !rutCyan



Rutronik Black

CMYK: 20, 0, 0, 100
RGB: 0, 0, 0
Rut_Code: !rutBlack

Application-specific Colours



Rutronik SMART

CMYK: 60, 0, 100, 0
RGB: 102, 255, 0
Rut_Code: !rutSmart



Rutronik EMBEDDED

CMYK: 0, 60, 100, 0
RGB: 255, 102, 0
Rut_Code: !rutEmbedded



Rutronik AUTOMOTIVE

CMYK: 0, 0, 100, 10
RGB: 230, 230, 0
Pantone C: 3955
HKS: 69
Rut_Code: !rutAutomotive



Rutronik Power

CMYK: 0, 100, 100, 0
RGB: 255, 0, 0
Pantone Solid 485
Rut_Code: !rutPower

Background Colours

in relation to text & graphic Elements

Amusciunt. Rovid ut
ium di temolo omnis si
simporis est intur aut
volestecea nobist, ea sam,
sinullis dolor sitatem



Light Gray

CMYK: 0, 0, 0, 10
RGB: 230, 230, 230
Rut_Code: !rutLightGray

Amusciunt. Rovid ut
ium di temolo omnis si
simporis est intur aut
volestecea nobist, ea sam,
sinullis dolor sitatem



Dark Gray

CMYK: 0, 0, 0, 60
RGB: 102, 102, 102
Rut_Code: !rut
DarkGrayGround

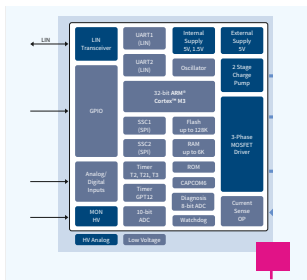
Table Head

CMYK: 35, 10, 0, 0
RGB: 166, 230, 255
Rut_Code: !rutTable_Head

Product Name	Freq. [MHz]	Interface
9871QXA20	24	PWM
9877QXA20	24	PWM + LIN
9877QXA40	40	
9879QXA20	24	PWM + LIN
9879QXA40	40	PWM + LIN

Table Body

CMYK: 18, 5, 0, 10
RGB: 188, 218, 230
Rut_Code: !rutTable_Body



Light Blue

CMYK: 9, 0, 0, 0
RGB: 232, 255, 255
Rut_Code: !rutLightBlue

Standard Terms & Corporate Typeface

Standard Terms

Correct Notation of the Full Company Name*:

Rutronik Elektronische Bauelemente GmbH

~~Rutronik GmbH, Rutronik Inc. etc~~

> to particularize in all official documents such as in contract management, financial accounting and insurance.

* Subsidiaries use their own legal company name

Correct Shortform in all languages: "RUTRONIK"

~~RUTRONIK~~

Shortform/Wording:

"RUTRONIK" or "Rutronik"

applied in incontinuous text phrases, presentations, brochures, advertisements.

With this award, Diodes honors Rutronik for the highest growth figures among distributors throughout Europe as well as for the highest percentage of design-in products in relationship to overall revenue. Rutronik generated year-on-year growth of 27 per-



Hyphenation is not permitted:

Mr. Hantsche, what exactly is behind ~~Ru-~~
~~tronic~~ EMBEDDED and Rutronik SMART?
With EMBEDDED, we are targeting customers
developing their applications on a board. For
them we have combined wireless compo-

Corporate Typeface:

News Gothic Std

(Adobe font):

Used as

- 1 Headlines
- 2 Subheadlines
- 3 Bodytext

1 Riosantionet odi aut

2 Em a expenam quia nostio volut la eiciisciti aturia

3 Ipsunt omnis natem nossuntius esto to blamusam quam aut eaqui cuptati re lita volupta ssincitat que coris et maximust liquo quunt, sinturibus, se cum cor arcioptur? Ebit moloreprat.

Minion Pro

(Adobe Font):

Used as

- 1 Bodytext
- 2 Subheadlines - [Bold]
- 3 Features with bullet points

1 Ipsunt omnis natem nossuntius esto to blamusam quam aut eaqui cuptati re lita volupta ssincitat que coris et maximust liquo quunt, sinturibus, se cum cor arcioptur? Ebit moloreprat.

Feature

- 2 ■ blamusam quam aut eaqui
- 3 ■ volupta ssincitat que
- liquo quunt, sinturibus, se

For Office Area:

(Presentations, Word, Excel...)

Font: Arial, Calibri

further Fonts > to be defined

Logos & Icons in their Rutronik Environment



RUTRONIK
ELECTRONICS WORLDWIDE

Product Portfolio



Semiconductors



Passive Components



Electromechanical
Components



Displays & Monitors



Boards & Systems



Storage Technologies



Wireless Technologies

Innovation Centers



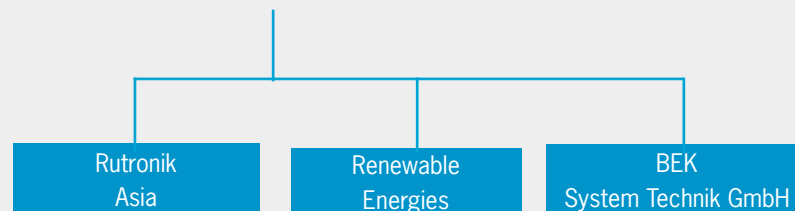
Internet, e-commerce & Social Media



Used forms social media elements

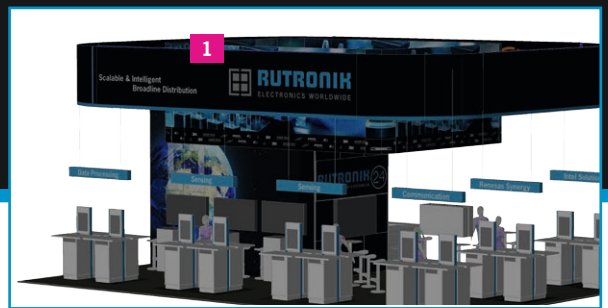


Subsidiaries & Particular Divisions



Circuit board
assembly

Key Visuals in Rutronik's Public Appearance



Corporate Visual

Main Visual:

1 Black Header:

- Vertical Cyan Line (left);
- Rutronik Worldwide Logo (right)

Further Elements:

2 Key Image

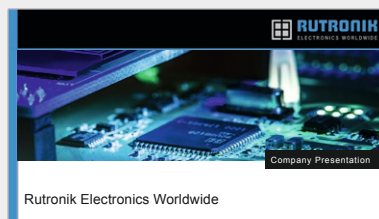
The selection of the image is depending on the subject of the brochure.

Colour tone: preferably blue as significant leading color tone

3 Main title

4 Sub title (more subject information)

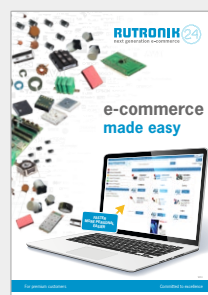
5 Rutronik bracket for focusing elements



E-Commerce Visual

Basic Visual:

- Rutronik24 Logo (right)
- Notebook with explosions graphic of components and suppliers
- Cyan line (horizontal on bottom)



Rutronik Career

Basic Visual:

1 Black Head as Rutronik Visual

2 Key Image - FIX

"Keep the electronics world on the move"

3 Main Claim

Electronics keep the world on the move. We keep electronics on the move.



Visual distinction of Rutronik Publications

Product & Technical Publications

Product & Technical Publications

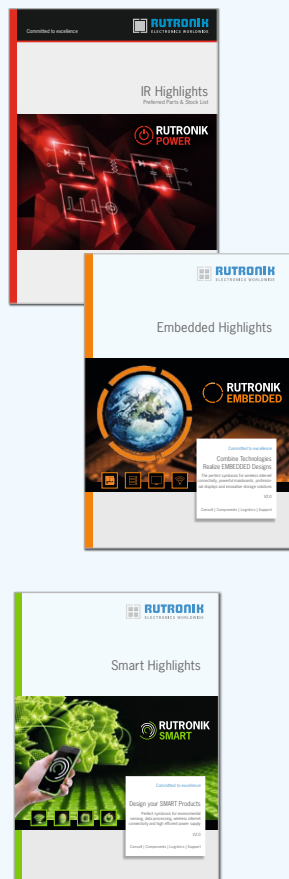
Product-based & Supplier Material



Features:

- Hoher Seitenpreis für Hersteller
- Hersteller hat das Recht eigene Corporate Elemente wie Visuals, Ikonen und Diagramme zu verwenden.

Applications-specific & KeyKey Markets



Product Publications Coop 50% > Rutronik Layout



Supplier Publications - Only Branding of cover & back cover.

Features:

- Coop 50%
- Low cost variant
- Fast Completion



Powerpoint Presentation (ppt), of Suppliers & Product Marketing

Features:

- Branded with Rutronik Frames
- For Sales



Further Links:

Printmedia Portal: <http://www.rutronik.com/downloads/brochures.html>

Layout Process

1 Preparation - Terms of Outline Data

Determining the outline data

- Headline of the brochure ?
- Usage Sales, Internal, Customers
- Structure of a page, Version
- Coop - Clearance of supplier needed?
- Determining of the content (concept)
- Is support for the writing of the texts needed?
- Do we have to use a translation agency?

PM, LM, special field Determining the outline data
=> *a form is in progress*

Marcom Designer ■ First briefing: determining the volume, calculating the effort
■ Preparing the order

Marcom Management Clearance of the project

2 Concept by PM, LM, Special Field

Concept in Word or Powerpoint:

- Rough Layout text and pictures, structure of the pages
=> helps the designer team to understand the links between the graphics
- Determining the structure of the pages in Excel (>8 pages)
- Filing of the content based on themes not based on pages
- Considering of the guidelines for texts, file format, formatting of symbols and so on
=> shown on the following pages
- Support from the Marcom special fields:
 - Questions to the layout & graphical material
=> Marcom department for graphics
 - Questions to the texts and writing
=> Marcom communications-team
 - Questions to the translation
=> Marcom communications-team

3 1. Layout – >Marcom Graphic-Department

- Realication of the rough layout
=> Under consideration of the ISO standards and Rutronik regulations
- 1 PDF with comments to PM, LM

4 Checking: 1. Layout-PDF > to PM, LM, Special Field

- Content: Correct? Complete?
- Supplying of missing material
- Corrections with comments back

5 2. Layout >Graphic-Department

- Realication of the 1. PM-Correction
- Working on typical finesses
- 2. PDF with corrections to PM, LM

6 Checking: 2. Layout-PDF > PM, LM, Special Field, Supplier

- 2. Corrections realized correctly??
- Checking: typography, layout, consideration of the ISO standards and Rutronik regulations
- Headlines generally start with capital letters
- Blank space between units and so on.
- High and low positioning of symbols

7 3. Layout Finalization Graphic-Department

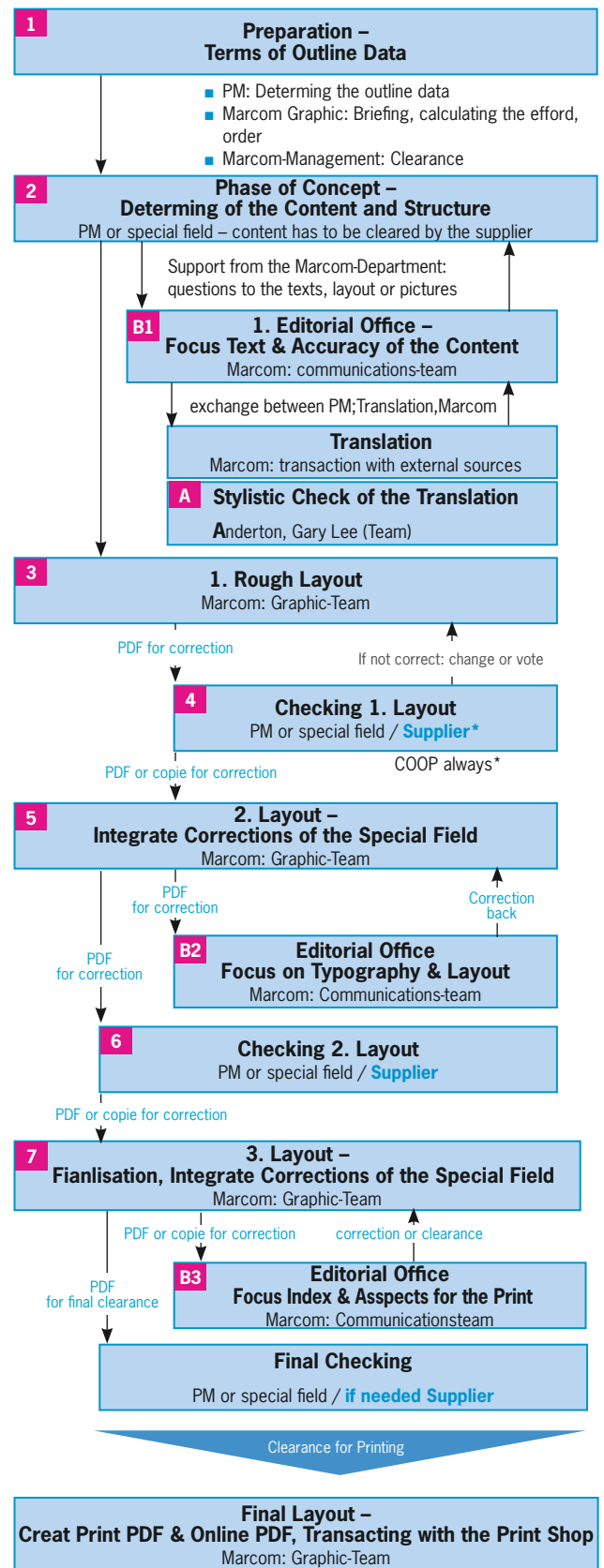
- Realication of the 2. PM-Correction & Supplier-Correction
- Adding of the finishing touches
- Preparation of the Index
- Final PDF to PMs for clearance

A Translations – Anderton, Gary Lee (Team) <> Marcom

- Checking by Rutronik (self written texts)
- Clarifying of textual uncertaintys
- Sampling of supplier pages
- Expertise of the electronic and sales department
- Native speaker
- Short intern ways

B1 Editorial Office (Marcom) Focus Text & Accuracy of the Content

- | | |
|----------------------------------|---|
| Text- and Content | <ul style="list-style-type: none"> ■ Accuracy of the language ■ Understandability ■ Accuracy of the structur and the layout |
| Style of writing | Corrections of 1:1 supplier texts for example if the name of the supplier repeats to often or they promise the best support -> like Rutronik does |
| Considering typographical points | <ul style="list-style-type: none"> ■ Considering the ISO standards and Rutronik regulations of writing ■ Headlines generally start with capital letters ■ Blank space between units and so on. ■ High and low positioning of symbols ■ At Bullet Points: first letter always as capital letter |
| Checking of terms of saying | ■ Rihgt terms for departments, products, same advertising massages |
| Spell check | Checking of spelling, grammer and punctuation |



B2 Editorial Office (Marcom) Focus Typographie & Layout

- | | |
|----------------------------------|---|
| Considering typographical points | <ul style="list-style-type: none"> ■ Hyphenation, paragraph and so on ■ High and low positioning, special characters ■ Text sections |
|----------------------------------|---|

B3 Editorial Office (Marcom) Focus Index, Asspects for the Print

- Index & Number of pages
- Section of the document
- Quality of the pictures

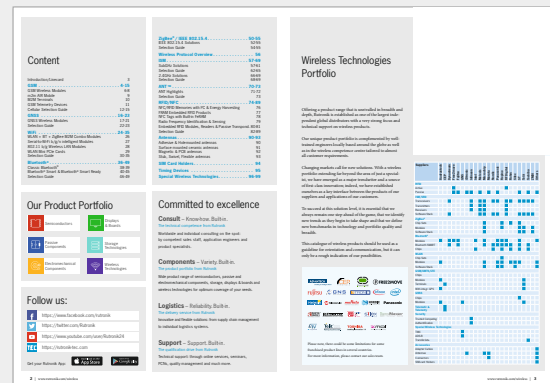
Structure of a Brochure

- 1 Cover Pages
- 2 Content & Introduction
Page 2+3
- 3 Content
Pages 4-X
- 4 Back Cover
Adresses and Issue

1



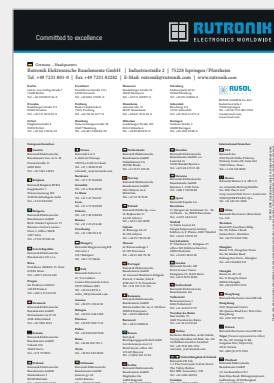
2



3



4



Structure of a Page

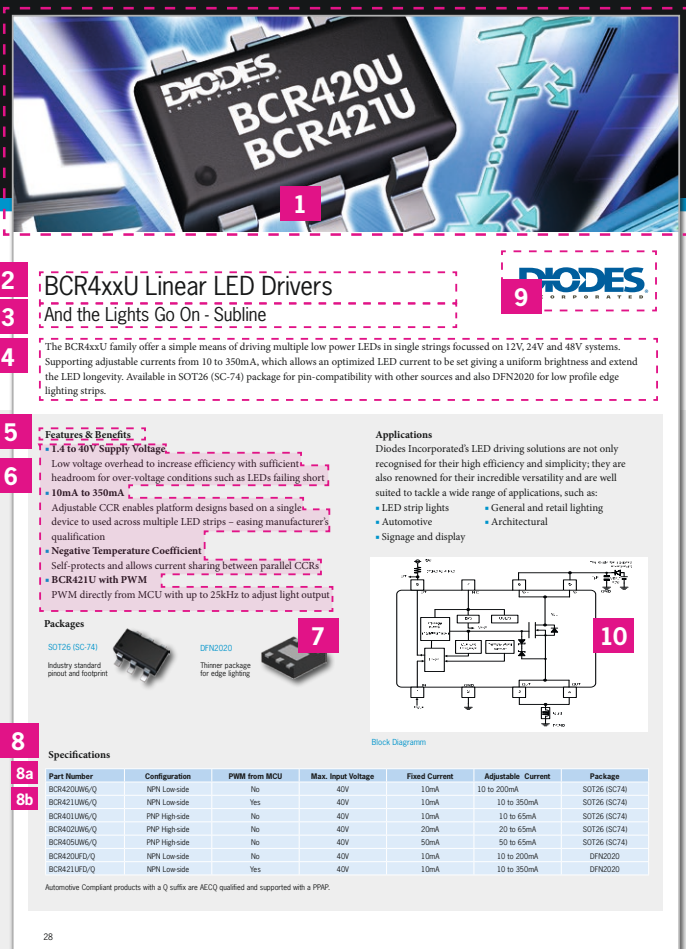
- Entry Area
- Detailed Area

Basic Font:

- Minion Pro,
- Fontsize 9.5 pt,
- Line space 13 pt
- Left-aligned

Entry Area

Detailed Area



Pos.	Type	Files	Description	Font&Size Info for Designers
1	Main Image as entry of first impression	.psd .jpg .tif .png	■ Application Pictures, Stockphotos, Promotion Pictures ■ 300 dpi resolution and higher ■ Image Sizes:	
2,3	Headline & Subline		■ Capitalization in Titles ■ Headline: Main Message – max. 45 Characters, ■ Subline: Sub Message or Supplement of the Main Message	■ News Gothic Std ■ Headline 22 Pt ■ Sugline 22 Pt
4	Introduction		Text: 510 – 560 Characters (4 Lines)	■ Basic Font
5	Header of Bullet Points		■ Capitalization,	■ Basic Font + Bold
6	Bullet Points		■ Blue Squares ■ ...	■ Basic Font
7	Packages		Transparent Images, 300 dpi, 6 cm width	
8	Table	.xls	Table Head, Table body, if necessary: footnotes	■ News Gothic Std ■ 6.5 Pt Std Version, 7,5 Pt possible
9	Supplier logo	.eps	Fix position	
10	Block diagrams, schematic graphics	.PDF, .ai	Background transparent, placed of hellblue background	
2,3, 5, 8a	Head & sublines, tablehead, captions and further headings above text or bullet points		■ Capitalization in Titles - When in doubt, here is one general rule recommended by the U.S. Government Printing Office Style Manual: "Capitalize all words in titles of publications and documents, except a, an, the, at, by, for, in, of, on, to, up, and, as, but, or, and nor." Link: http://capitalizemytitle.com/ ■ Exeptions: vollständiger grammatikalischer Satz	
Text	Hyperlinks		Hyperlinks to other web pages and social media platforms as Rutronik is directly not possible. There are possibilities about Rutronik links.	

Table Designs

1

Part Number	V_{DS} (V)	I_D max (A) (@ 25 °C)	$R_{DS(on)}$ max (Ω) (@ $V_{GS} = 20$ V)	Total gate charge Q_g typ (nC)	T_J max (°C)	Package
SCT10N120	1200	12	0.69	22	200	HiP247™
SCT20N120	1200	25	0.239	45	200	HiP247™
SCT30N120	1200	45	0.069	105	200	HiP247™
SCT50N120	1200	65	0.069	122	200	HiP247™
SCTWA50N120	1200	65	0.069	122	200	HiP247™ long leads

Type	Supplier 1	Supplier 2	Supplier 3	Supplier 4	Supplier 5
Single		x	x	x	x
High-Side / Low-Side	x	x		x	x
Dual	x	x	x	x	
Half Bridge	x	x	x	x	x
H-Bridge					x
3-Phase	x	x	x	x	x
Non-Isolated		x	x	x	x
Isolated	x	x			x
Automotive (AECQ)	x		x	x	x
Industrial		x		x	

2

Orderable Part Number	Integrated Bootstrap Diode	Offset Voltage Max (V)	Inputs	Output Current lo+ Typ (mA)	Output Current lo- Typ (mA)	ton / toff Typ (ns)	tr / tf Typ (ns)	Package	Status
6 High-side / Low-side Gate Drivers									
DGD0507FN-7	Y	50	HIN, LIN, EN	1400	2200	20 / 23	17 / 13	DFN3030-10	Production
DGD2110S16-13	N	500	HIN, LIN, SD	2500	2500	105 / 94	25 / 17	SO16	Production
DGD21904MS14-13	N	600	HIN, LIN	4500	4500	140 / 140	25 / 20	SO14	Production
Half-Bridge Gate Drivers									
DGD0506FN-7	Y	50	IN, DT, EN	1500	2500	96 / 463	14 / 12	DFN3030-10	Production
DGD0503FN-7	N	100	HIN, LIN*	290	600	680 / 150	70 / 35	DFN3030-10	Production
DGD21844S14-13	N	600	IN, SD^	1900	2300	680 / 270	40 / 20	SO14	Production
Single Channel Gate Drivers									
DGD2117S8-13	N	600	IN	290	600	125 / 105	75 / 35	SO8	Production
DGD2118S8-13	N	600	IN*	290	600	125 / 105	75 / 35	SO8	Production
3-phase Gate Drivers									
DGD2136S28-13	N	600	HIN*1,2,3, LIN*1,2,3, EN, ITRIP	200	350	330 / 330	90 / 35	SO28	Production

5 * = out of phase with output

Tables:

- Excel file as basis of tables
- General Style:
 - Lightblue with white lines > table head colour darker
- 3th header inside a table is possible and save space

- Please take note about our "Typographical Standards" on further pages
- Vertical alignment in all cells
- Blue Fields, or "Yes" cells must be marked with lower case "x" in Excel - its not necessary to format the cell.
- Dezimal points, instead commas 100.00
- Please note of asterisk characters and footnotes

Measurement Units of Rutronik

Based on International Standards (ISO) / DIN Standards

In Essence – The Following Features:

- The symbol of the unit shall be placed after the numerical value in the expression for a quantity, leaving a space between the numerical value and the unit symbol. It should be noted that, in accordance with this rule, the symbol °C for degree Celsius shall be preceded by a space when expressing a Celsius temperature.

Example: 10 V, 100 mm², 50 °C,

Links

- https://en.wikipedia.org/wiki/ISO_80000-1
- Hier ist der Verlauf der Entwicklung dieser ISO <https://www.iso.org/standard/30669.html>
- <http://www.archiv-digital.de/word/DIN5008/din5008.htm#anker2.9.1>
- <http://www.cabeweb.de/html/din5008.htm>
- https://de.m.wikipedia.org/wiki/Schmales_Leerzeichen
- <http://www.tastschreiben.de/p0400090.htm>
- [http://www.tw-h.de/wiki/index.php?title=Leerzeichen_zwischen_Zahl_und_Ma%C3%9Fseinheit_%E2%80%93_Quellen_und_Belege_\(E%2BD\)](http://www.tw-h.de/wiki/index.php?title=Leerzeichen_zwischen_Zahl_und_Ma%C3%9Fseinheit_%E2%80%93_Quellen_und_Belege_(E%2BD))
- http://www.public.iastate.edu/~bkh/teaching/518/metric_practice.pdf

Reference Table for Formatting of Symbols and Characters

Basic Characters

Appearance	Often unformatted	Type Word (Office)	To do in Adobe Indesign	Bemerkung
999 mm ²	999 mm2	999 mm[ALT+2]	–	
999 mm ³	999 mm3	999 mm[ALT+3]	–	
999 Ω	999 Ohm	999 [ALT+0937]	–	
±99 %	+ oder -	[ALT+0177]999 %	–	
Registered®	Registered®		> hochstellen	
Trademark™	Trademark™	Trademark[ALT+0153]	–	
µF	uF	[AltGr+m]	–	
€	E oder Euro	[AltGr+E]	–	
100 to 120 also possible: 100–120 (in tables)	100-120, 100–120, 100...120	100 [ALT+0150]	> Glyphen/Mathematical Symbols > Minus-Sign	without Blanks
Power Supply – The Heart of the System	Power Supply - The Heart of the System	Power Supply [ALT+0150]	–	EN Dash
–10 to 150 °C	-10 to +150°C		> Glyphen Mathematical	Minus Symbol (+ Sign at 150 °C is not necessary)

Technical Characters

Appearance	Often unformatted	Type Word (Office)	To do in Adobe Indesign	Bemerkung
I _{PC}	I2C	I [ALT+2]C	–	
V _{DC} / V _{AC}	VDC / VAC		manually formatting	
R _{DS(on)}	RDS(on), RDS(ON)		manually formatting	
V _{DSS}	VDSS		manually formatting	
Q _E	QG		manually formatting	
further Terms in process				

Exceptions:

If there are problems with space, could blanks be removed.

Liste wird ständig erweitert

For creating an Layout is it necessary to have tables and images as separed files (Original)

The BCR6xxU family offer a simple means of driving multiple low power LED's in single strings focused on 12V, 24V and 48V systems. Supporting adjustable currents from 10 to 350mA, which allows an optimized LED current to be set giving a uniform brightness and extending the LED longevity. Available in SOT23 (SC-74) package for pin compatibility with other sources and also DFN2020 for low profile edge lighting strings.

- **1 A to 40 V Supply Voltage**
Low voltage overhead to increase efficiency with sufficient headroom for over-voltage conditions such as LEDs failing short
- **10 mA to 350 mA**
Adjustable CCR enables platform designs based on a single device to used across multiple LED strips - easing manufacturer qualification
- **Negative Temperature Coefficient**
Self protects and allows current sharing between parallel CCRs
- **ECER421U with PWM**
BUMC decouples from MCU with an internal 50 kHz to drive high current

Applications

Disled Incorporated's LED driving solutions are not only recognized for their high efficiency and simplicity, they are also renowned for their incredible versatility and are well suited to tackle a wide range of applications, such as:

- LED strip lights
- Automotive
- Signage and display
- General and retail lighting
- Architectural



Specifications						
Part Number	Configuration	Power from MCU	Max Input Voltage	Fixed Current	Adjustable Current	Package
ECR010M0-0	SPN (single)	No	0V to 5V	150mA	10V to 25.5V	SO8
ECR010M0-0	SPN (single)	Yes	0V to 5V	150mA	10V to 25.5V	SO8/256-06
ECR010M0-0	SPN (single)	Yes	0V to 5V	150mA	10V to 25.5V	SO8/256-06
ECR010M0-0	SPN (single)	No	0V to 5V	150mA	10V to 25.5V	SO8/256-06
ECR010M0-0	SPN (single)	No	0V to 5V	150mA	10V to 25.5V	SO8/256-06
ECR010M0-0	SPN (single)	No	0V to 5V	50mA	10V to 25.5V	SO8/256-06
ECR010M0-0	SPN (single)	No	0V to 5V	150mA	10V to 25.5V	SO8/256-06



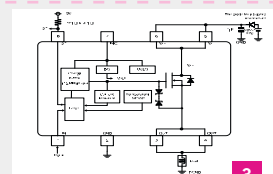
DIODES 3

The BCR4xxU family offer a simple means of driving multiple low power LEDs in single strings focussed on 12V, 24V and 48V systems. Supporting adjustable currents from 10 to 350mA, which allows an optimized LED current to be set giving a uniform brightness and extend the LED longevity. Available in SOT26 (SC-74) package for pin-compatibility with other sources and also DFN2020 for low profile edge lighting strips.

- **1.4 to 40V Supply Voltage**
 - Low voltage overhead to increase efficiency with sufficient headroom for over-voltage conditions such as LEDs failing short
- **10mA to 350mA**
 - Adjustable CCR enables platform designs based on a single device to use across multiple LED strips – easing manufacturer qualification
- **Negative Temperature Coefficient**
 - Self-protects and allows current sharing between parallel CCRs
- **BCR421U with PWM**
 - PWM directly from MCU with up to 25kHz to adjust light output

Diodes Incorporated's LED driving solutions are not only recognised for their high efficiency and simplicity; they are also renowned for their incredible versatility and are well suited to tackle a wide range of applications, such as:

- LED strip lights
- Automotive
- Signage and display
- General and retail lighting
- Architectural



2	Number	Configuration	PWM from MCU	Max. Input Voltage	Fixed Current	Adjustable Current	Package
1	BC8401LW06-Q	NPN Lowside	Yes	40V	10mA	10 to 350mA	SOT26 (SC74)
	BC8401LW06-Q	NPN Lowside	Yes	40V	10mA	10 to 350mA	SOT26 (SC74)
	BC8401LW06-Q	NPN Lowside	No	40V	10mA	10 to 65mA	SOT26 (SC74)
	BC8402W06-Q	PNP Highside	No	40V	20mA	20 to 65mA	SOT26 (SC74)
	BC8405W06-Q	PNP Highside	No	40V	50mA	50 to 65mA	SOT26 (SC74)
	BC8405LW06-Q	NPN Lowside	Yes	40V	10mA	10 to 200mA	DFN2020
1	BC8401LW06-Q	NPN Lowside	Yes	40V	10mA	10 to 350mA	DFN2020

Automotive Compliant products with a Q suffix are AECQ qualified and supported with a QQA

29

Pos.	Type	Files	Description
1	Text & drafts	.doc .ppt	Word, Powerpoint (also Open Office)
2	Tables	.xls	Excel
3	Graphics; block diagrams; charts logos, icons, symbols,	.ai .eps .pdf	Adobe Illustrator, Encapsulated Postscript, PDF in high resolution, printable, vektorized (freely scalable)
4	Images of components / packages	.psd .jpg .tif .png	300 dpi resolution and higher Image width min. 6 cm If possible: Cropped or masked Images (transparent background)
5	■ Application, Product, Livestyle Images, Stockphotos, ■ Supplier Visuals ■ Backgrounds ■ Photoshop composings	.psd .jpg .tif .png	300 dpi resolution and higher Image size mind. 15 cm – optimal: 21 cm

Product & Technical Publications – Cover Pages

Product-based & Technical

1 Basic Visual

Black Head as common Rutronik visual

2 Headline – Short subject about product group or division name

3 Sub Description

Possible Subject: Short Description of document or also promotion character

4 Version Number (obligatory)

5 Image

- Main picture: size 135x202 mm
- Product pictures
- Bracket (preferably with focus of components)

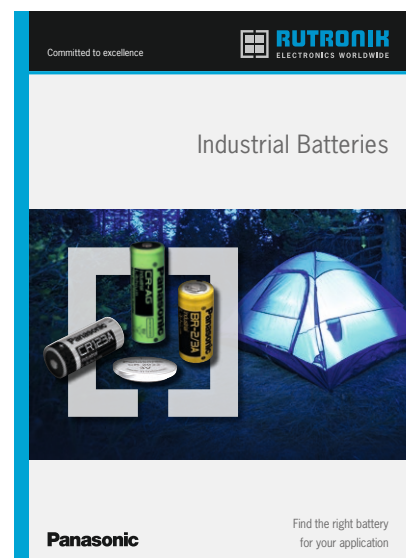


Supplier-specific

1 Supplier Logo

Basic Layout:

as rubric "Product-based & Technical"



Applications-specific & Key Markets

Consistent Key Visuals

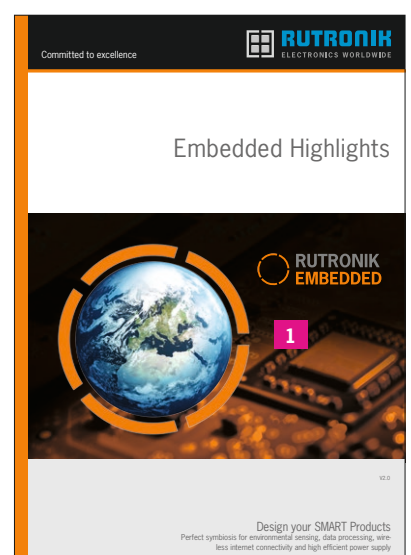
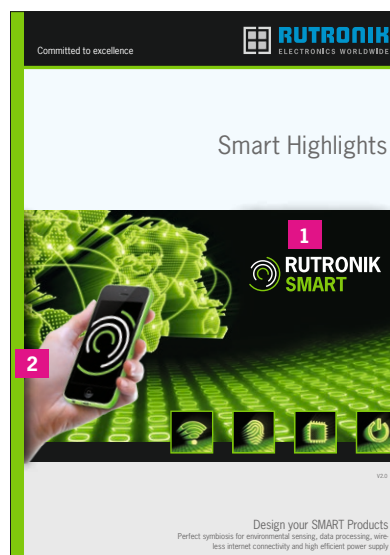
Used throughout all possible Marketing Channels (print, fairs, seminars, internet etc.)

1 Branded Rutronik Logo

2 Branded Visual, with Image & Key Color

Basic Layout:

as rubric "product-based & technical"



Essential Elements

1 Image

- Main picture: sources from supplier, stock photos and isolated product images
- Bracket

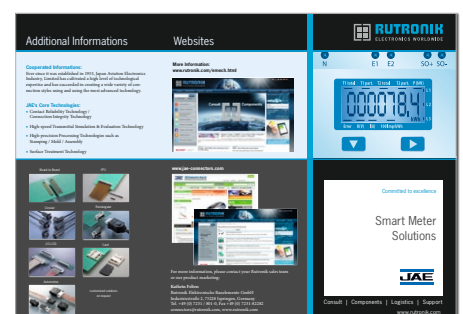
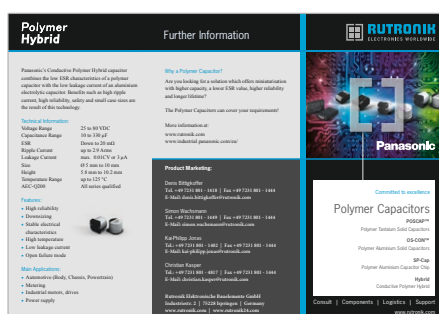
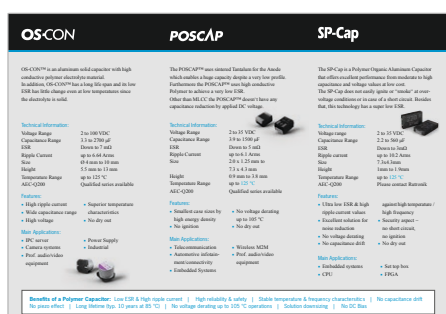
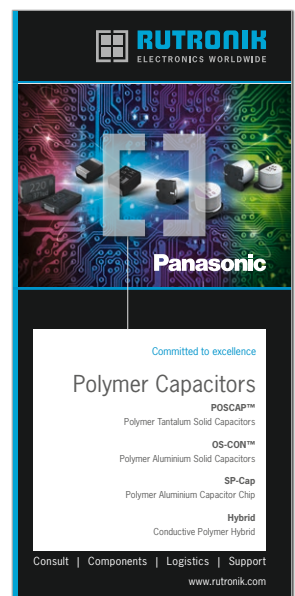
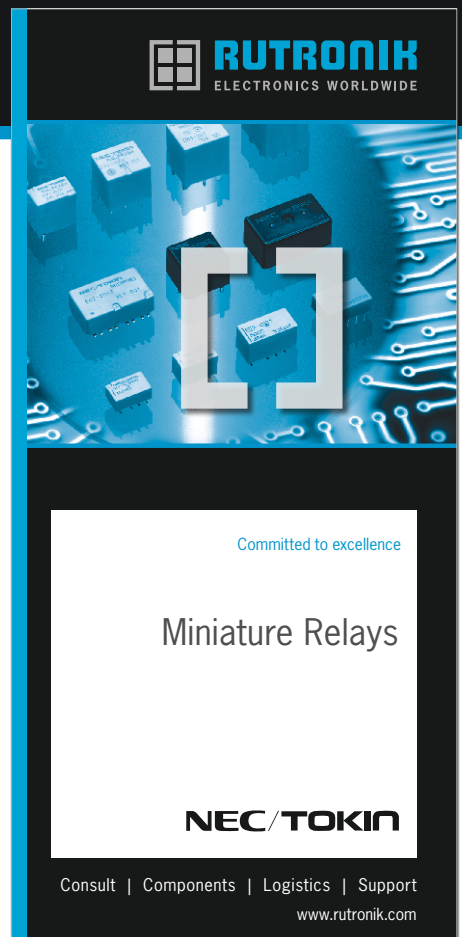
2 Headline

3 Subtext (not necessary)

4 Supplier Logo (by cooperation)



Examples



Introduction: Pages 2+3

Content

1

Introduction/Linecard 3

GSM 4-15

GSM Wireless Modules 6-8

m2m AIR Mobile 9

M2M Terminals 10

GSM Telemetry Devices 11

Cellular Selection Guide 12-15

GNSS 16-23

GNSS Wireless Modules 17-21

Selection Guide 22-23

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Adhesive & Holomounted antennas 90-92

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Magnetic & PCB antennas 92

Stub, Swivel, Flexible antennas 93

SIM Card Holders 94

Timing Devices 95

Special Wireless Technologies 96-99

Our Product Portfolio

3

Semiconductors

Boards & Systems

Passive Components

Storage Technologies

Electromechanical Components

Wireless Technologies

Displays & Monitors

Committed to Excellence

2

Consult – Know-how. Built-in.

The Technical Competence from RUTRONIK

Worldwide and individual consulting on the spot: by competent sales staff, application engineers and product specialists.

Components – Variety. Built-in.

The Product Portfolio from RUTRONIK

Wide product range of semiconductors, passive and electro-mechanical components, displays & monitors, boards & systems, storage and wireless technologies for optimum coverage of your needs.

Logistics – Reliability. Built-in.

The Delivery Service from RUTRONIK

Innovative and flexible solutions: from supply chain management to individual logistics systems.

Quality – Security. Built-in.

Quality Management without Compromise

The integrated management system (IMS) encompasses quality control, environmental protection and occupational health and safety.

Our Innovation Centers

RUTRONIK AUTOMOTIVE **RUTRONIK EMBEDDED** **RUTRONIK POWER** **RUTRONIK SMART**

Follow us

4

RUTRONIK 24 next generation e-commerce

www.rutronik.com

Analog & Sensor Highlights

6

Your Reliable Source for Analog & Sensor Solutions

Rutronik Analog

Rutronik Analog Connects the World Between Analog & Digital

Operational Amplifier & Comparators, Logic ICs, Converter & Digital Potentiometer, Voltage References & Supervisor as well as Timer IC and Interfaces – this is our comprehensive Analog offer.

Analog products connect the physical and the digital worlds by translating sensor signals into 1s and 0s to be used in electronics.

A broad selection of devices that are characterized by small footprint, high level of integration and low power consumption will help you to solve design challenges.



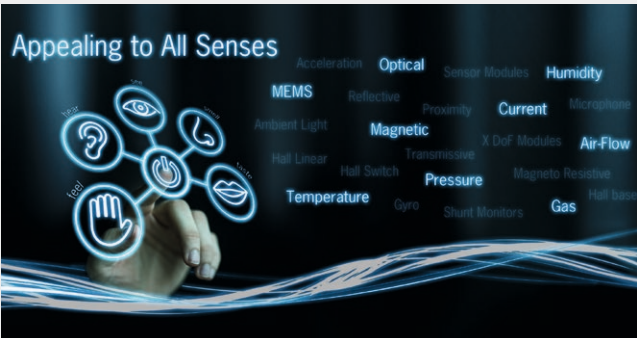
Rutronik Sensors

Rutronik – THE Sensor Distributor

This is our self-conception when it comes to sensors. An industry leading sensor portfolio combined by state of the art products and an exemplified solution selling approach makes it easy for you to realise your sensing application. Let's go and appeal to all senses.

Appealing to All Senses

Acceleration, Optical, Sensor Modules, Humidity, MEMS, Reflective, Proximity, Current, Microphone, Ambient Light, Magnetic, X DuF Modules, Air-Flow, Hall Linear, Hall Switch, Transmissive, Magneto Resistive, Temperature, Gyro, Shunt Monitors, Gas, Hall base.



Introduction Pages

Brochures with more than 4 Product pages have to include an introduction:

Page 2

1 Content

2 Core Competencies

3 Product Portfolio

4 Social Media Area

5 Image Motif:

- subject of brochure
- repeated from cover page

Page 3

6 Editorial

possible content:

- General market of subject
- Rutronik on market place
- Technology overview
- Benefits with our supplier

Further:

Linecards, supplier logos

Examples

Sensing the World

5

Our Product Portfolio

Semiconductors, Passive Components, Electromechanical Components, Boards & Systems, Storage Technologies, Wireless Technologies

Committed to excellence

Consult – Know-how. Built-in.

The Technical Competence from RUTRONIK

Worldwide and individual consulting on the spot: by competent sales staff, application engineers and product specialists.

Components – Variety. Built-in.

The Product Portfolio from RUTRONIK

Wide product range of semiconductors, passive and electro-mechanical components, storage, displays & boards and wireless technologies for optimum coverage of your needs.

Logistics – Reliability. Built-in.

The Delivery Service from RUTRONIK

Innovative and flexible solutions: from supply chain management to individual logistics systems.

Support – Support. Built-in.

The Quality Management without Compromise

Technical support, through online services, seminars, PCNs, quality management and much more.

Follow us:

www.facebook.com/rutronik, https://twitter.com/rutronik, www.youtube.com/user/rutronik24, https://www.linkedin.com/company/rutronik, Get Your Rutronik App

Content

Introduction/Linecard 3-5

Power Supplies 6-7

DC-DC & AC-DC Converter Modules 8-13

Voltage Regulation 14-15

Switching Regulators 16-27

Protected MOSFETs 28-37

Motor Driver ICs 38-45

IGBTs 46-49

Power MOSFETs 50-58

Thyristors 59-60

Diodes 61-67

Modules 68-74

RF / RF Transistors 75

Our Product Portfolio

Semiconductors, Passive Components, Electromechanical Components, Boards & Systems, Storage Technologies, Wireless Technologies

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Logistics – Reliability. Built-in.

The Delivery Service from RUTRONIK

Innovative and flexible solutions: from supply chain management to individual logistics systems.

Quality – Security. Built-in.

Quality Management without Compromise

The integrated management system (IMS) encompasses quality control, environmental protection and occupational health and safety.

Follow us:

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Product Brochures: Basic Structure of Pages



1 Main area of images

Possible motifs:

- Preferably supplier material
- Isolated components or diagrams
- Stock photos

2 Headline

In relation with subtitle **2a** and short description **2b**

3 Supplier Logo

4 Product Area:

- Technical description
- Isolated components or diagrams

Sources & Info:

- Templates & biblithek elements of Indesign
- Layout grid

Examples



Product Brochures: Back Cover


RUTRONIK
 ELECTRONICS WORLDWIDE

Committed to excellence

Germany – Headquarters
Rutronik Elektronische Bauelemente GmbH | Industriestraße 2 | 75228 Ispringen / Pforzheim
 Tel. +49 (0) 7231 801-0 | Fax +49 (0) 7231 82282 | E-Mail: rutronik@rutronik.com | www.rutronik.com

Berlin Justus-von-Liebig-Straße 7 12489 Berlin Tel. +49 30 809 27 16-0	Frankfurt Frankfurter Straße 151 c 63309 Dreieich Tel. +49 6103 270 03-0	Hannover Rendsburger Straße 32 30659 Hannover Tel. +49 511 238 507-0	Nürnberg Südwestpark 10/12 90449 Nürnberg Tel. +49 911 6 88 68-0
Dresden Radeburger Straße 172 01109 Dresden Tel. +49 351 20 53 30-0	Freiburg Basler Landstraße 8 79111 Freiburg Tel. +49 761 61 16 77-0	Mannheim Amelsstraße 33 68307 Mannheim Tel. +49 621 76 21 26-0	Ostwestfalen Brockweg 133 33332 Gütersloh Tel. +49 5241 232 71-0
Erfurt Flughafenstraße 4 99092 Erfurt Tel. +49 361 228 36-30	Hamburg Neue Gröningerstraße 10 20457 Hamburg Tel. +49 40 3 59 60 06-20	München Landsberger Straße 392 81241 München Tel. +49 89 88 99 91-0	Ratingen Gothaer Straße 2 40888 Ratingen Tel. +49 2102 99 00-0

European branches:

Austria Rutronik Elektronische Bauelemente Ges. m. b. H. Dariusstraße 1 4600 Wels Tel. +43 7242 4 49 01	France Rutronik S.A.S 6, Mail de l'Europe 78170 La Celle St Cloud Tel. +33 1 30 08 33 00 rutronik_sas@rutronik.com Bordeaux Tel. +33 5 57 26 40 00 Grenoble Tel. +33 4 76 61 00 90 Le Mans Tel. +33 4 37 81 69 97 Lyon Tel. +33 4 72 76 80 00 Poitiers Tel. +33 5 49 52 88 88 Rennes Bld. Nikola Vapartov 35 Business Center Lozencec Floor 1, Office N° 1B 44077 Sola Tel. +35 92 974 86 46	Netherlands Rutronik Elektronische Bauelemente GmbH Papendal 4a 4206 CL Gorinchem Tel. +31 183 64 60 30	Slovakia Rutronik Elektronische Bauelemente GmbH, o.z. Lazovná 11 97401 Banská Bystrica Tel. +421 48 4 72 23 00
Belgium Rutronik Belgium BVBA Keppenkouter 1 Ninowestendweg 198 9320 Erembodegem-Aalst Tel. +32 53 60 65 90	Hungary Rutronik Magyarországi Kft. Aliz utca 1 1117 Budapest Tel. +36 1 371 06 66	Norway Rutronik Elektronische Bauelemente GmbH Olav Helestei vei 6 0604 Oslo Tel. +47 22 76 79 20	Slovenia Rutronik Elektronische Bauelemente GmbH Motnica 5, 1236 Trzin Tel. +386 1 561 09 80
Bulgaria Rutronik Elektronische Bauelemente GmbH Bld. Nikola Vapartov 35 Business Center Lozencec Floor 1, Office N° 1B 14077 Sofia Tel. +35 92 974 86 46	Italy Rutronik Italia S.r.l. 21, Via Caldera Centro Direzionale S.Siro 20153 Milano (MI) Tel. +39 02 449 931-1 italia_MI@rutronik.com	Poland Rutronik Polska Sp. z o.o. ul. Bojkowska 37 44-101 Gliwice Tel. +48 32 461 20 00 Gdynia ul. Rotego 28-32 81-366 Gdynia Tel. +48 58 783 20-20 Warsaw ul. Braniczkiego 3 01-785 Warszawa Tel. +48 22 462 70-50	Spain Rutronik España S.L. Barcelona C/ Marqués de Sentmenat 54 - 58, 3a Planta - 1o, 08029 Barcelona Tel. +34 93 444 24 12 Madrid Ctra. Cañillas 134 - 1a Planta - 9B 28043 Madrid Tel. +34 91 3 00 55 28 San Sebastián Pº Uribarri, 71 - 1ºE 20115 Astigarraga/Guipuzcoa Tel. +34 943 40 45 28
Czech Republic Rutronik Elektronische Bauelemente CZ s.r.o. Brno Slavíkova 1a 63800 Brno Tel. +420 5 454 24-681 Prague Na Pankraci 1638/43 140 00 Praha 4 Tel. +420 2 33 34 31 20	Portugal Rutronik Elektronische Bauelemente GmbH Av. General Humberto Delgado Porta 8, 1º andar, Sala R. 4700-042 V. N. Famalicão Tel. +351 252 3 12-336	Sweden Rutronik Nordic AB Kista Science Tower Farogatan 33 16451 Kista Tel. +46 8 50 55 49 00	Switzerland Rutronik Elektronische Bauelemente AG Volketswil Brunnenstrasse 1 8604 Volketswil Tel. +41 44 9 47 37 37 Yverdon-les-Bains Rue Gallie 15, 1400 Yverdon-les-Bains Tel. +41 24 42 39 1 40
Denmark Rutronik Elektronische Bauelemente GmbH Hørnsundervej 27-29 2620 Albertslund Tel. +45 7020 19 63	Romania Rutronik Elektronische Bauelemente GmbH Dr. Grigore T. Popa Str. no. 81 300291 Timisoara Tel. +40 25 64 01 240 Bucuresti Tel. +40 314 25 38 39	Turkey in foundation Hotel Soyuz, office 314 125445 Moscow Tel. +7 (499) 963 31 84	United Kingdom & Ireland Rutronik UK Ltd. Deakins Business Park, Blackburn Road, Egerton Bolton, Lancashire, BL7 9RP Tel. +44 1204 60 22 00
Estonia Rutronik Elektronische Bauelemente GmbH Vaskali 17A 50410 Tartu Tel. +372 7370951	Russia Rutronik Beteiligungsgesellschaft mbH Levozhovskaya street 12 Hotel Soyuz, office 314 125445 Moscow Tel. +7 (499) 963 31 84	Thailand Rutronik Elektronische Bauelemente GmbH 2/1 Soi Rom Klao 25/2 Rom Klao Road, Khlongamprawat, Ladkrabang, 10520 Bangkok, Tel. +66 2 737 6423	Taiwan Rutronik Electronics Asia HK Ltd. Taipei (Taiwan branch) 13F-2, No. 27, Lane 609, Kangning St., Xizhi District 221 New Taipei City Tel. +886 (2) 2692 7841
Finland Rutronik Elektronische Bauelemente GmbH Kirkkokyläntie 3 00700 Helsinki Tel. +358 9 3291 2200	Lithuania Rutronik Elektronische Bauelemente GmbH VUIC Bul. Mindaugas 47182 Kaunas Tel. +370 37 26 17 80	USA Rutronik Inc. 3 Summit Park Drive, Suite 535 Cleveland, Ohio 44131 Tel. +1 216 328 8000	Mexico Rutronik Mexico S.A. DE C.V. Av. Armando Birlauf Shaffer No. 2001 Piso 8 A-11 Corp. Central Park Torre 1, Centro Sur 76090 QUERETARO, Qro. Tel. +52 442 242 5361
China Rutronik Electronics (Shenzhen) Co., Ltd. Shenzhen Room 807, Excellence Bldg., No. 98, Futian 1 Road Futian Distr., Shenzhen Tel. +86 755 8240 7106	Shanghai Room 1710, Dongchen Tower No. 60, Median Road Pudong New Distr., Shanghai Tel. +86 216 8869 910	Chengdu Room no. 407, 4F No. 31 Zong Fu Street 610016 Chengdu Tel. +86 28 8651 2214	Hong Kong Rutronik Electronics Asia HK Ltd. Hong Kong 54/F, Hopewell Centre 183 Queens Road East, Wan Chai Hong Kong Tel. +852 5337 0119

International branches:

Please note: Rutronik Electronics Asia HK Ltd. is a wholly owned subsidiary of Rutronik GmbH, Germany. Rutronik Electronics Asia HK Ltd. is not a subsidiary of Rutronik Inc., USA. Rutronik Inc. is a wholly owned subsidiary of Rutronik GmbH, Germany. Rutronik Inc. is not a subsidiary of Rutronik Electronics Asia HK Ltd.

Fix element available as PDF

Continuously updated by Markom department.

Please check for new updates
before printing

1 Notification about:

■ Issue of brochure

...

Q04

...

Year

Month

2016

April

2018 = "S"

- Language
- Remarks of technical modifications and possible restrictions

Branded Promotion & Info Sheets

Please note:

Promotion material of our suppliers for print & online media should be **Rutronik branded**

With using the **Basic Rutronik Frame** **1** is it possible to give an supplier sheet quickly an Rutronik face.

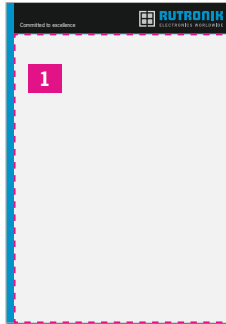
E.g. an original supplier pdf placed in an Adobe Indesign document **2**.

1 Elementary Elements

Basic visual with vertical cyan line (left); Rutronik Worldwide logo, claim

Preferable Elements:

- 3** Key Image & Headline
- 4** Supplier Logo
- 5** Rutronik Adress



Examples

Committed to excellence

RUTRONIK
ELECTRONICS WORLDWIDE

50 A SCR: TN5050H-12WY
AC/DC converter applications

This 1200 V, 50 A automotive-grade thyristor makes AC/DC converters safe by limiting the inrush current and providing insulation against AC line overvoltages.

KEY FEATURES

- On-state RMS current: 50 A
- Blocking voltage: 1200 V
- High commutation: 200 A/µs
- High off-state immunity: 1000 V/µs
- Gate trigger current: 50 mA
- AEC-Q101 compliant
- ECOPACK2 compliant

KEY BENEFITS

- Automotive grade reliability, quality and AEC-Q101 compliance
- Reduce BOM: extra power device no longer needed in the rectifier bridge
- Same efficiency/dissipation and cooling size as diode bridge
- High PCB creepage distance above 4mm
- Control peak current at charger power up

TARGETED APPLICATIONS

- EV/HEV (on board, off board battery chargers)
- Industrial battery chargers
- Renewable energy inverters
- Uninterruptible power supplies (UPS)
- Motor drive (inrush current limiter, soft start)
- Industrial welding system

2

Committed to excellence

RUTRONIK
ELECTRONICS WORLDWIDE

Broadline Distributor Rutronik founds US-American Subsidiary

Rutronik Electronics Worldwide is delighted to announce the founding of its new subsidiary, Rutronik Inc. in North America. With its headquarters in Cleveland, Ohio, and with future expansion planned in key markets throughout the US, Canada and Mexico, it is positioned to serve the North American market. Under the expert supervision of Vice President Jeff Shafer, Rutronik Inc. operates independently and flexibly within the global Rutronik Group.

Jeff Shafer, Vice President of Rutronik Inc., is an expert in the electronic distribution industry. Mr. Shafer has been working in the electronic distribution industry for over 30 years, holding various managerial positions in which he was responsible for both the American market and international business.

You want to learn more about Rutronik and our product portfolio? Please contact us or visit www.rutronik.com. We are looking forward to meeting you!

RUTRONIK WORLDWIDE

Rutronik is the world's largest distributor in the world (more than 70 branches in more than 30 countries in North America, Asia and Europe).

For Quotes or Customer Service, please contact us at: sales@rutronik.com

Our Product Portfolio

- Semiconductors
- Passive Components
- Electromechanical Components
- Displays & Boards
- Storage Technologies
- Wireless Technologies

Jeff Shafer
Vice President North America

Rutronik Inc.
3 Summit Park Drive Suite 525
Cleveland, OH 44131

Phone:
+1 216.326.8000 (toll free)
+1 216.373.5555 (local)
+1 216.373.5551 (fax)
+1 216.373.5550 (fax)

www.rutronik.com

Committed to excellence

RUTRONIK
ELECTRONICS WORLDWIDE

Why DIODES?

Worry-Free System-Level ESD Protection

First-Time, Right-System Design

Leading-Edge Performance

Rugged Quality

Wide Application Fields

- High-Speed Data Line Protection
- Automotive Protection
- Lightning Surge Protection
- Battery Protection
- General Interface Protection

Innovative Package Solutions

- DFN1006 with Side-Wall Plating for Optical Inspection Capabilities
- DFN2020 Package Surge Solution
- DFN0603 High-Quality and Reliability Package Available

Ultra High-Speed Protections

- Line Capacitance Down to 200fF
- Fallsafe IEC61000-4-2 Protection with Low Clamp Voltage
- Space-Saving Packages

Innovative Silicon Solutions

- Low Noise Diodes for GSM and Antenna Protection
- Ultra Low Dynamic Resistance Down to 1 nΩ

FOR MORE INFORMATION E-MAIL info@diodes.com | www.diodes.com

RUTRONIK Elektronische Bauelemente GmbH | Industriestraße 2 | 75228 Ispringen | Germany | Phone +49 7231 801-0 | www.rutronik.com **5**

Committed to excellence

RUTRONIK
ELECTRONICS WORLDWIDE

50 A SCR: TN5050H-12WY
AC/DC converter applications

4 **ST**
life.augmented

This 1200 V, 50 A automotive-grade thyristor makes AC/DC converters safe by limiting the inrush current and providing insulation against AC line overvoltages.

Available in a TO-247, high power package, the TN5050H-12WY automotive-grade SCR is suitable for automotive / stationary battery chargers, renewable energy generators, uninterruptible power supplies, solid state relays, welding equipment and motor drive applications.

The TN5050H-12WY offers superior performance in surge current handling (TSM = 200 A at 10ms), thermal cooling capabilities (Rth(j-c) = 0.3 °C/W) and high surge voltage withstanding capability (VDSM/VRSM = 1300 V).

Key Features

- On-state RMS current: 50 A
- Blocking voltage: 1200 V
- High commutation: 200 A/µs
- High off-state immunity: 1000 V/µs
- Gate trigger current: 50 mA
- AEC-Q101 compliant
- ECOPACK2 compliant

Key Benefits

- Automotive grade reliability, quality and AEC-Q101 compliance
- Reduce BOM: extra power device no longer needed in the rectifier bridge
- Same efficiency/dissipation and cooling size as diode bridge
- High PCB creepage distance above 4mm
- Control peak current at charger power up

Target Applications

- EV/HEV (on board, off board battery chargers)
- Industrial battery chargers
- Renewable energy inverters
- Solid state relays
- Uninterruptible power supplies (bypass)
- Motor drive (inrush current limiter, soft start)
- Industrial welding system

3

Committed to excellence

RUTRONIK
ELECTRONICS WORLDWIDE

infineon

1EDI EiceDRIVER™ Compact
1200V galvanically isolated single-channel driver IC family

4

The new 1EDI EiceDRIVER™ Compact family supports efficiently a broad range of applications with MOSFETs as well as IGBTs up to 6A output current. The used Coreless Transformer technology with 1200V galvanic isolation is tailored for all 600V, 650V and 1200V IGBT, Power Modules and 650V CoolMOS™.

With its bench mark in common mode transient immunity (CMTI) of 100kV/µs 1EDI driver ICs are extremely robust and tailored for the latest generations of CoolMOS™ C7 with 3- and 4-pins, CoolMOS™ CP and IGBT TRENCHSTOP™ 5. 1EDI Compact is available in five variants with separate source and gate output for MOSFET and IGBT and three different output current variants with a Miller Clamp for IGBT. All variants are offered in a compact DSO-8 with a green and halogen-free package width of 15mm (RoHS compliant).

1EDI60N12AF and 1EDI20N12AF for MOSFETs supply six and two amperes of output current. They have a separate output for charging and discharging the gate. With the propagation delay below 105ns and the input filter time of only 40ns customer benefits is the ideal use up to 4MHz for high switching frequency applications as SMPS. Both are optimized for use with power semiconductors that are based on CoolMOSTM technology. Due to lower induction loss, the EiceDRIVER™ thus enables an additional gain in efficiency of 0.5 percent with the new C7. Beside SMPS these drivers are recommended for applications as PFC, server, telecom, solar, buck/boost converter and PC power. 1EDI60N12AF, 1EDI40N12AF, 1EDI20N12AF and 1EDI05N12AF for IGBTs supply 0.5 up to 6 amperes of output current. These four variants have also a separate output for charging and discharging the gate.

Additional three variants 1EDI05N12MF, 1EDI20N12MF and 1EDI10N12MF are structured to limit the gate voltage (active Miller clamp) and provide 3, 2 and 1 amperes of output current.

All IGBT driver variants support general purpose inverter (GPI), general purpose drives & servo, welding, induction heating for industrial as well as cooking, solar inverter and UPS.

www.infineon.com/eicedrivercompact

Main Features

- Single channel isolated Driver
- Input to output isolation voltage up to 1200 V
- For high voltage power MOSFETs and IGBTs
- Up to 6 A minimum peak rail-to-rail output
- Separate source and sink outputs or active Miller Clamp

Applications

for MOSFET:

- SMPS
- PFC
- Server
- Solar
- Buck/boost converter

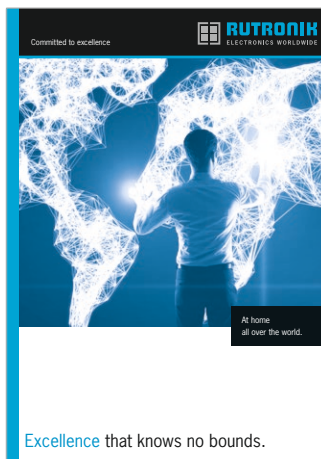
for IGBT:

- General purpose inverter (GPI)
- Drives
- Welding
- W industrial and cooking
- Solar inverter
- UPS

RoHS

RUTRONIK Elektronische Bauelemente GmbH | Industriestraße 2 | 75228 Ispringen | Germany | Phone +49 7231 **5**

Corporate Image & Value Added Publications



Claim

14 Pts / News Gothic;
Font Color: white

Line Horizontal

5 Pts line width
Position: y:32 mm
Color: rutBlue

Key Image

Size 202x175mm

Sub Title

Font Size: 15 Pts
(depends on text)
Color: white
Frame:
Size: 88x31 mm black

1 + 2 Main Title

Font Size: 32 Pts
Font: News Gothic Medium
Color: black + rutBlue

8

Committed to excellence



RUTRONIK
ELECTRONICS WORLDWIDE

9

10 mm

6 mm



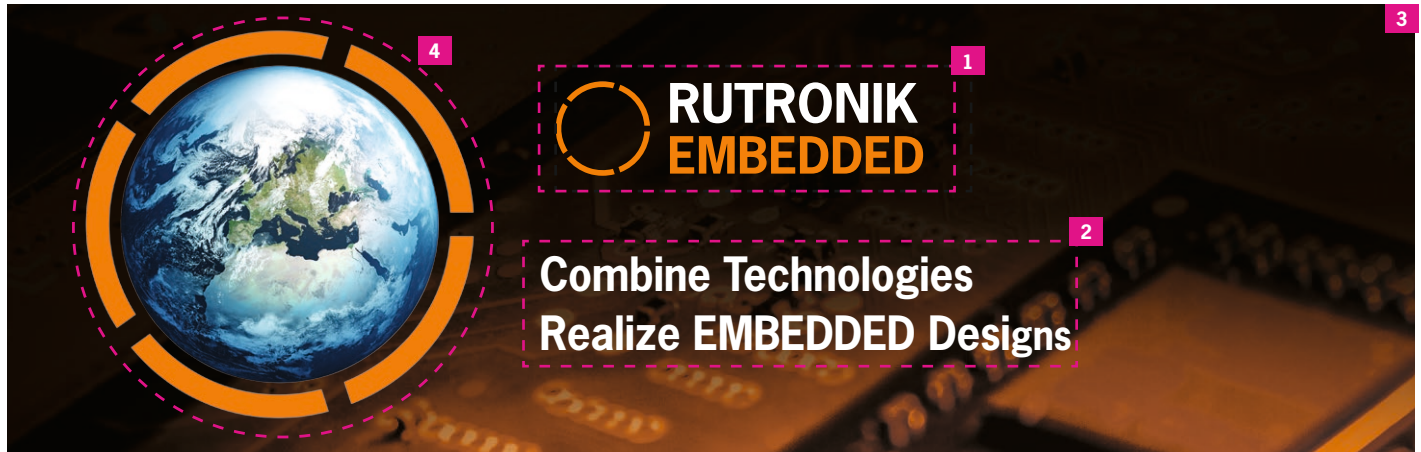
Logistics Solutions –
Standard or Custom-Tailored

Our portfolio. **Unique.**

1

2

Rutronik Key-Visuals: e.g. RUTRONIK EMBEDDED



RUTRONIK EMBEDDED

RUTRONIK EMBEDDED is a new range of bundled hardware, software and services, bringing together entire solutions, consisting of selected Wireless Components, Displays, Boards and Storage solutions for industrial machines on the Internet of Things. The featured products are optimized for the typical requirements like robustness, longevity and offer a high level of integration.

RUTRONIK EMBEDDED

RUTRONIK EMBEDDED



Boards & Systems



Storage



Displays



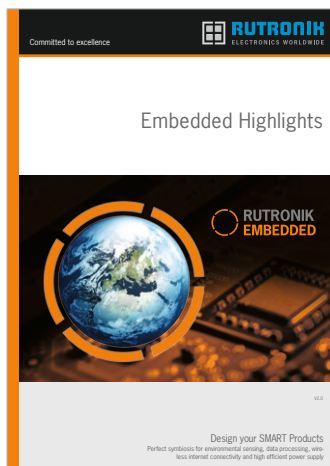
Wireless

Examples

Advertisement



Highlights Catalogue



1. Logo – Main use
2. Claim
3. Background visual
4. Key element
5. Description text
6. Icon
7. Logo variants – if main logo not possible

Sources:

Logos & visuals
Examples
Templates

Key Colour:

0c 60m 100y 0k



(further color definitions in
Indesign-Templates)

Internet



Notepads

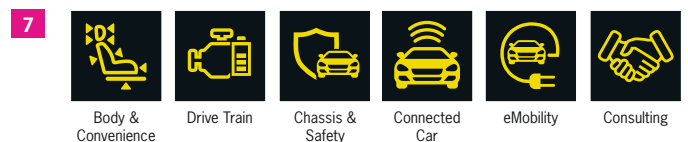


Rutronik Key-Visuals: RUTRONIK AUTOMOTIVE



- 5** RUTRONIK **AUTOMOTIVE** offers innovative products of leading manufacturers for the automotive industry. RUTRONIK **AUTOMOTIVE** brings together entire solutions to build applications for:
- Body & Convenience
 - Chassis & Safety
 - eMobility
 - Drive Train
 - Comfort Car
 - Consulting

- RUTRONIK **AUTOMOTIVE** bietet innovative Produkte führender Hersteller für die Automotive Industrie. RUTRONIK **AUTOMOTIVE** bringt komplette Lösungen für folgende Themenbereiche:
- Body & Convenience
 - Chassis & Safety
 - eMobility
 - Drive Train
 - Connected Car
 - Consulting



How to use:

1. Logo (Main use)
2. Claim
3. Black background
4. Key element
5. Description text (in English and German)
6. Logo variants (If main logo not possible)
7. Icons
8. Examples

Key Colour:

C0 M0 Y100 K10

(further color definitions in InDesign-Templates)

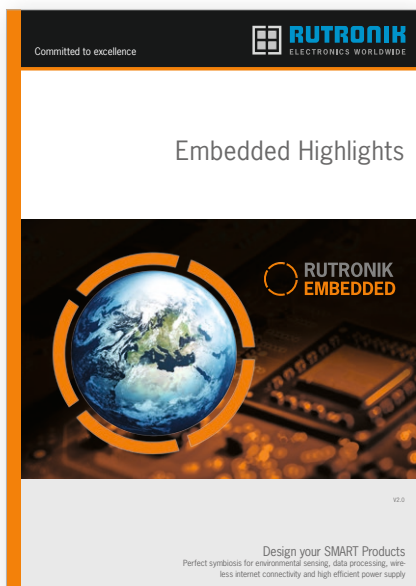
Rutronik Key-Visuals: RUTRONIK EMBEDDED



- 5** RUTRONIK EMBEDDED is a new range of bundled hardware, software and services, bringing together entire solutions, consisting of selected Wireless Components, Displays, Boards and Storage solutions for industrial machines on the Internet of Things. The featured products are optimized for the typical requirements like robustness, longevity and offer a high level of integration.



Examples



How to use:

1. Logo (Main use)
2. Claim
3. Key Visual background
4. Key element
5. Description text
6. Logo variants (If main logo not possible)
7. Icons

Sources:

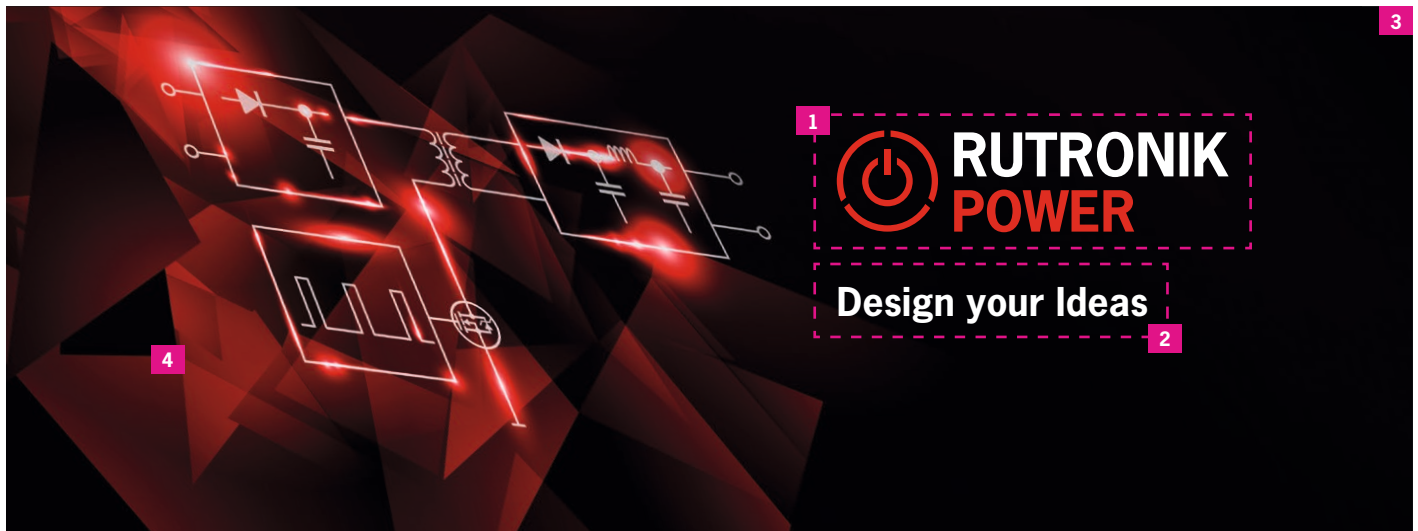
Logos & Visuals
Examples
Templates

Key Colour:

C0 M60 Y100 K0

(further color definitions in InDesign-Templates)

Rutronik Key-Visuals: RUTRONIK POWER



5 RUTRONIK POWER stands for scalable solutions to convert energy, to switch, to drive or to connect resistive, capacitive or inductive loads. RUTRONIK POWER offers dedicated know-how from specially trained FAEs and Product Marketing Managers. Throw in state-of-the-art product portfolios from leading suppliers around the globe.



Examples



How to use:

1. Logo (Main use)
2. Claim
3. Black background
4. Key element
5. Description text
6. Logo variants (If main logo not possible)
7. Icons

Sources:

Logos & Visuals
Examples
Templates

Key Colour:

C0 M100 Y100 K0

(further color definitions in InDesign-Templates)

Rutronik Key-Visuals: RUTRONIK SMART



5 RUTRONIK SMART is a new range of bundled hardware, software and services, bringing together entire solutions, consisting of selected Sensors, Wireless Components, Security Solutions and Cloud Services for devices on the Internet of Things. The featured products are optimized for the typical requirements like space limitations, ultra-low power and offer a high level of integration.



Examples



How to use:

1. Logo (Main use)
2. Claim
3. Black background
4. Key element
5. Description text
6. Logo variants (If main logo not possible)
7. Icons

Sources:

Logos & Visuals
Examples
Templates

Key Colour:

C60 M0 Y100 K0

(further color definitions in InDesign-Templates)

Rutronik Key-Visuals: RUTRONIK24



Please be careful. There are different shades of grey in the typo. Use the right Logo. For bright background 65% black, for dark background 30% black.



5 Rutronik24 is a modular online shop selling around one million articles across the full spectrum of electronic components. Customers are able to get everything they need, quickly and easily, on a single platform, as well as enjoying support from the Rutronik24 sales team. Highlights include the Mass Quotation Tool, with which customers can upload and get a quote for a complete parts list, as well as an extensive PCN database.

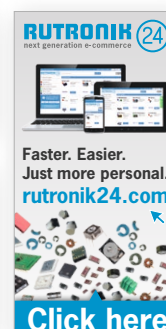
7 English: **Faster. Easier. Just more personal.**
 German: **Schneller. Individueller. Komfortabler.**
 Polish: **Szybciej. Wygodniej. Bardziej Indywidualnie.**
 French: **Plus rapide. Plus individuel. Plus confortable.**

8 Examples

Print



Online



How to use:

1. Logo (Main use)
2. Slogan and URL
3. Background
Print: Supplier-logos in soft grey
Online: Grey-white gradient
4. Key element
5. Description text
6. Logo variants
(If main logo not possible)
7. Slogan in different languages
8. Examples

Key Colour:

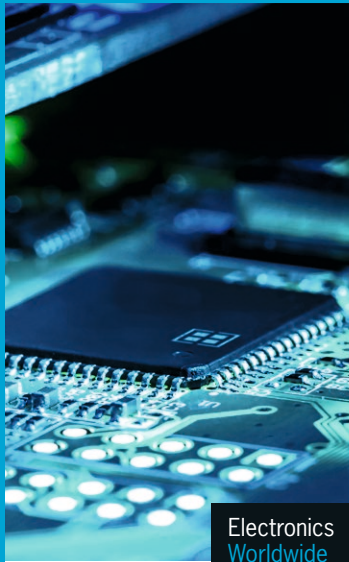
C100 M20 Y0 K0

C0 M0 Y0 K65

(further color definitions in InDesign-Templates)

Advertisements in Magazines

Image Advert



RUTRONIK
ELECTRONICS WORLDWIDE

Electronics Worldwide

Hightech Bauelemente für Ihre Innovationen.

Als einer der führenden Distributoren für elektronische Bauelemente bieten wir Ihnen weltweit ein breites Produktportfolio, kompetente technische Unterstützung bei Produktentwicklung und Design-In, individuelle Logistik-Lösungen sowie umfangreiche Serviceleistungen.

- Semiconductors
- Passive Components
- Electromechanical Components
- Displays & Boards
- Storage Technologies
- Wireless Technologies

Informationen zu RUTRONIK: +49 (0) 7231 801-0
www.rutronik.com

Überzeugen durch Leistung
Consult | Components | Logistics | Support

Supplier Coop Adverts



RUTRONIK
ELECTRONICS WORLDWIDE

TOSHIBA
Leading Innovation >>>

Lineare Optokoppler
Isolationsverstärker mit Delta-Sigma-ADC

Zu den Anwendungen von linearen Optokopplern zählen Servoverstärker, Wechselrichter, Stromversorgungen und Fotovoltaik-Wechselrichter. In der Automatisierungstechnik sowie in Servoverstärkern und Wechselrichtern wird heute mit sehr hoher Präzision gearbeitet, was eine exakte Messung und Übermittlung des Motor-Phasenstroms oder der BUS-Spannungsänderung an den Mikrocontroller erfordert.

Sie zeichnen sich außerdem aus durch:

- Sehr hohe Genauigkeit
- Varianten mit Analogausgang und Digitalausgang
- Sehr breiten Betriebstemperaturbereich: -40 bis +105°C
- Sehr hohe Linearität (0,02% @NL200, typ.)
- Hervorragenden stabilen Betrieb in störungsbehafteten Umgebungen
- Besonders sichere Antriebssteuerungen

Die Isolationsverstärker TLP7820 und TLP7920 bieten eine garantierte Gleichzeitstörfestigkeit von 20kV/µs (typ. @VCM=1kV, Ta=25°C). Die Isolation erfolgt durch eine optische Barriere mit einer Isolationsspannung von 5000Veff (min.).

Mehr Infos zu den linearen Optokopplern: +49 7231/801 1565
Auch erhältlich unter www.rutronik24.com | www.rutronik.com

Überzeugen durch Leistung
Consult | Components | Logistics | Support



RUTRONIK
ELECTRONICS WORLDWIDE

YAGEO®

Rutronik & Yageo
Mittelspannungs-MLCC mit hoher Kapazität für Leistungsanwendungen

Rutronik präsentiert die leistungsstarken und zuverlässigen MLCCs mit hohem CV-Wert von Yageo – hohe Kapazität, Mittelspannung, lieferbar in vielen Gehäusegrößen von 0805 bis 2220.

Merkmale und Vorteile

- gleichzeitig hohe Kapazität und Gleichspannung
- höhere Energiedichte
- hohe Zuverlässigkeit ohne Polarität
- TC: X7R (-55°C - 125°C)
- Kapazität, Spannungsbereich: 1-10 µF, 50-100 V

Anwendungen

- Stromversorgung
- Gleichspannungswandler
- Beleuchtung
- Server

M&T

Weitere Informationen über MLCCs: +49 7231/801 1356
Auch erhältlich unter www.rutronik24.com | www.rutronik.com

Überzeugen durch Leistung
Consult | Components | Logistics | Support

Image Advert

Fix Elements
Rutronik brand,
Logo & vertical line

Header

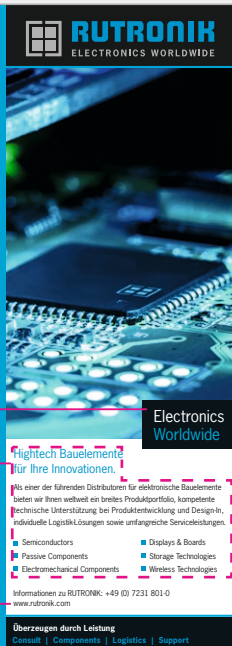
Subject

- Subheadline (blue)
- Copy text (description)
- Product portfolio

Contact Info

Fix Elements

Core Competences, claim, web address



RUTRONIK
ELECTRONICS WORLDWIDE

Electronics Worldwide

Hightech Bauelemente für Ihre Innovationen.

Als einer der führenden Distributoren für elektronische Bauelemente bieten wir Ihnen weltweit ein breites Produktportfolio, kompetente technische Unterstützung bei Produktentwicklung und Design-In, individuelle Logistik-Lösungen sowie umfangreiche Serviceleistungen.

- Semiconductors
- Passive Components
- Electromechanical Components
- Displays & Boards
- Storage Technologies
- Wireless Technologies

Informationen zu RUTRONIK: +49 (0) 7231 801-0
www.rutronik.com

Überzeugen durch Leistung
Consult | Components | Logistics | Support

Supplier Coop Advert

Main Image

- Products
- Logo
- Background with white triangle (gradient)

Header

- Headline (blue)
- Subline (white)

Subject

- Article description
- Key features, Benefits & applications in bullet points

Contact info



RUTRONIK
ELECTRONICS WORLDWIDE

YAGEO®

Rutronik & Yageo
Mittelspannungs-MLCC mit hoher Kapazität für Leistungsanwendungen

Rutronik präsentiert die leistungsstarken und zuverlässigen MLCCs mit hohem CV-Wert von Yageo – hohe Kapazität, Mittelspannung, lieferbar in vielen Gehäusegrößen von 0805 bis 2220.

Merkmale und Vorteile

- gleichzeitig hohe Kapazität und Gleichspannung
- höhere Energiedichte
- hohe Zuverlässigkeit ohne Polarität
- TC: X7R (-55°C - 125°C)
- Kapazität, Spannungsbereich: 1-10 µF, 50-100 V

Anwendungen

- Stromversorgung
- Gleichspannungswandler
- Beleuchtung
- Server

M&T

Weitere Informationen über MLCCs: +49 7231/801 1356
Auch erhältlich unter www.rutronik24.com | www.rutronik.com

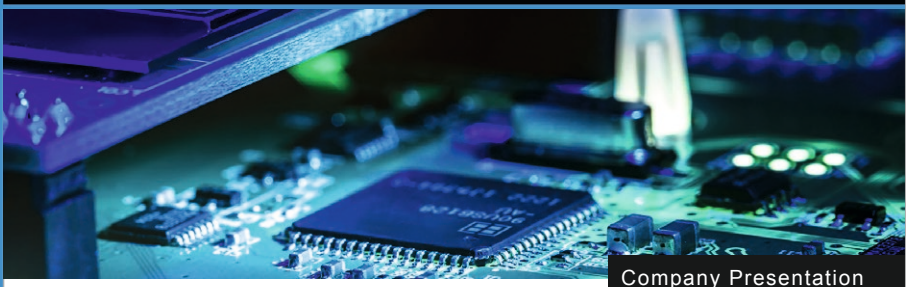
Überzeugen durch Leistung
Consult | Components | Logistics | Support

Rutronik Corporate Profile

Sources:

■ Intranet





Company Presentation

Rutronik Electronics Worldwide



Facts and figures

- Broadline distributor for electronic components with 28 billion permanent available parts
- Since 1973 in private ownership
- Headquarters based in Ispringen/Germany
- Company turnover 1 billion US \$
- More than 1.400 employees
- More than 30 subsidiaries and 70 offices worldwide
- Worldwide identical support and service levels
- Logistics hubs in Asia, Europe and North America



Committed to excellence
September 2015 | p. 3



Worldwide logistics performance

Inbound	
parcels per day	> 400
palettes per day	120
Outbound	
picks per day	up to 11.000
volume (parts) per day	250 mio
customer labels per day	38.000



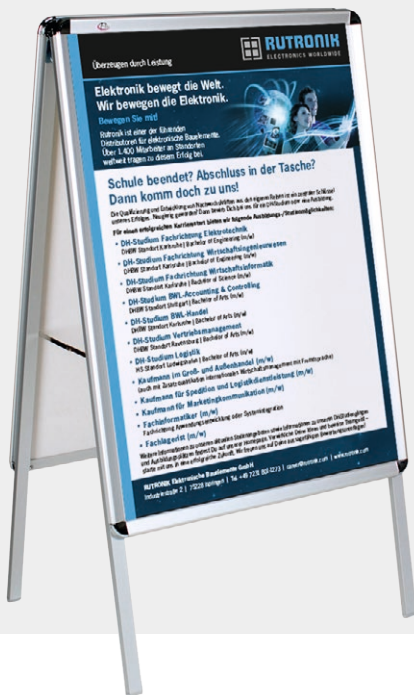

Industry 4.0 in action:
Fully Automated Warehouse with integrated Logistics Systems

Committed to excellence
September 2015 | p. 21

External Communication

Visual Presentation:

- Job advertisement
- Customer stopper
- Personal brochure
- Training & study brochure



Überzeugen durch Leistung



**Elektronik bewegt die Welt.
Wir bewegen die Elektronik.
Bewegen Sie mit!**

Rutronik ist einer der führenden Distributoren für elektronische Bauelemente. Über 1.400 Mitarbeiter an Standorten weltweit tragen zu diesem Erfolg bei.

Die IT der Rutronik stellt mit ihren Teams IT-Infrastruktur, eBusiness, Anwendungen, Datawarehouse und IT-Service Desk über hochmoderne Technik allen Mitarbeitern weltweit dieselben IT-Services zur Verfügung, sorgt für deren permanente Verfügbarkeit und kontinuierliche Verbesserung.

Wir suchen für den Standort Ispringen IT-Spezialisten (m/w) mit folgenden Profilen:

RPG-Programmierer (m/w)

Software-Entwickler Workflow / Collaboration (m/w)

Datenbank-Administrator SQL (m/w)

Spezialist Netzwerk-Sicherheit (m/w)

IT-Projektmanager Anwendungen (m/w)

Mitarbeiter IT-Service-Desk (m/w)

Mitarbeiter IT-Einkauf und Controlling (m/w)

Details zu Aufgaben und Anforderungen der verschiedenen Stellen finden Sie auf unserer Homepage unter www.rutronik.com/karriere.

Wir bieten Ihnen größtmögliche Flexibilität bei einer attraktiven Vergütung und zusätzlichen Sozialleistungen. Für die Einarbeitung organisieren wir ein umfangreiches Schulungsprogramm und stellen Ihnen einen erfahrenen Kollegen als Paten zur Seite.

Wir freuen uns auf Ihre Bewerbung (bitte mit Angabe von Gehaltsvorstellung und Eintrittstermin). Ihr Kontakt für weitere Informationen:

RUTRONIK Elektronische Bauelemente GmbH

Industriestraße 2 | 75228 Ispringen | Tel. +49 7231 801-1273 | career@rutronik.com | www.rutronik.com

HR Advert



HR Brochure



HR Training & Study Brochure

optional

1



Überzeugen durch Leistung

**Elektronik bewegt die Welt.
Wir bewegen die Elektronik.**

Bewegen Sie mit!

Rutronik ist einer der führenden Distributoren für elektronische Bauelemente. Über 1.400 Mitarbeiter an Standorten weltweit tragen zu diesem Erfolg bei.

2

Unsere zentrale Personalabteilung ist für die Betreuung aller Mitarbeiter der Rutronik-Gruppe weltweit verantwortlich. Im Zuge unserer globalen Expansion verstärken wir auch unser HR-Team und suchen:

Personalsachbearbeiter (m/w)

Bewerbermanagement

Ihre Aufgaben:

Sie sind für die Abwicklung des kompletten Bewerbermanagements der Rutronik-Gruppe verantwortlich. Neben der Korrespondenz koordinieren Sie Vorstellungsgespräche, organisieren Stellenausschreibungen und sorgen für einen transparenten und effizienten Bewerbungsprozess. Sie betreuen die Bewerber-Hotline und sind erster Ansprechpartner für Interessenten.

Ihr Profil:

- Abgeschlossene kaufmännische Berufsausbildung
- Erste Berufserfahrung im Aufgabenbereich oder aus vergleichbaren Aufgabengebieten
- Ausgeprägte Kunden- und Serviceorientierung
- Kommunikationsstärke, selbständige, effiziente und teamorientierte Arbeitsweise
- Gute MS-Office-Kenntnisse
- Gute Englischkenntnisse

Interessiert? Wir bieten Ihnen vielseitige Aufgaben mit langfristigen Perspektiven in einem weltweit führenden Unternehmen an. Wir freuen uns auf Ihre Bewerbung (bitte mit Angabe von Gehaltsvorstellung und Eintrittstermin). Ihr Kontakt für weitere Informationen:

RÜTRONIK Elektronische Bauelemente GmbH

Industriestr. 2 | 75228 Ispringen | Tel. +49 7231 801-1273 | career@rutronik.com | www.rutronik.com

4

Headline

Add. Headline

Job Description

Footer

variable

1 Rutronik Main Visual

with Claim
 German: Überzeugen durch Leistung
 International: Committed to excellence

2 HR Key Visual

with Claim
 German: Elektronik bewegt die Welt...
 International: Electronic moves the world...
 > Could be left: if costs have to be reduced

3 Content

- Headline
 Preferred sizes: 20 | 24 | 28 Pkt
 (depends on text lengths)
 - Add. Description of Job name
 - Body Text
 with variable fontsize 7- 10 Pkt
 preferred: 8.5 Pkt |

4 Footer

■ Rutronik contact

QR-Code

optional:

- Useful, if enough space on the right side of the advert
- Useful, make advert short and detailed text on web page



PDF Options for Newspaper Printing:

PDF Standard:

- [PDF/X-3:2002]
- PDF compatibility levels: Acrobat 4 (PDF 1.3)

Output (Color management)

- Color Conversion: Convert to Destination
- Destination: ISOnewspaper26v4

Advanced

- Transparency Flattener Presets: PDFX-ready_2400Stich_600Verlauf

Stationery Paper

RUTRONIK Elektronische Bauelemente GmbH | Industriestr. 2 | 75228 Ispringen | Germany

Musterfirma GmbH
Mr. Mustermann
Industriestraße 123
00000 Musterhausen
Germany

Rutronik
Elektronische Bauelemente GmbH
Industriestraße 2
75228 Ispringen | Germany
E-Mail: rutronik@rutronik.com
www.rutronik.com

Letter Paper DIN A4 for Promotion Mailings

Essential Elements

1. Fix Elements:
2. Claim
German:
Überzeugen durch Leistung
International:
Committed to excellence
3. Body Text
with variable* Fontsize
Body: 7-9 Pkt
Headline: 20 | 24 | 28 Pkt.

Sources:

- Stationery Paper:
T:\vorlagen\Stationery Paper

Die perfekte Komplettlösung für Ihr medizinisches Gerät

Sehr geehrte Damen und Herren,

ob Dialysegerät, Ultraschallgerät oder Apparate zur Patientenüberwachung - medizinische Anwendungen und Applikationen sind sehr vielfältig, sie stellen jedoch alle die gleichen Hauptanforderungen. In dieser Broschüre haben wir für Sie Komponenten aus dem Bereich Storage, Displays & Boards zusammen

gestellt, die diese Anforderungen optimal erfüllen. Eine der wichtigsten ist die Langzeitverfügbarkeit sowie eine gleichbleibende BOM (Bill of Material). Denn medizinische Geräte werden vor ihrer Zulassung gründlich geprüft und durchlaufen aufwendige und meist langwierige Freigabe- und Zertifizierungsprozess

se. Nahezu jede Änderung an der Applikation verlangt eine neue Freigabe bzw. Zertifizierung. Deshalb vermeiden die hier vorgestellten Hersteller Produktänderungen und -wechsel solange wie möglich. Hohe Qualität und damit geringe Ausfallraten verstehen sich als Kriterium für Medizinanwendungen von selbst – schließlich hängen nicht selten Menschenleben vom Gerät ab.

Viele Grüße
Ihr Rutronik Team

Max Mustermann

Letter Paper

Compliment Card

Committed to excellence

Mit freundlicher Empfehlung | With Compliments | Sincères Salutations

RUTRONIK Elektronische Bauelemente GmbH | Industriestr. 2 | 75228 Ispringen, Germany | Tel.: +49 7231 801-0 | rutronik@rutronik.com | www.rutronik.com

Business Card

Front



Back



Labels



Events, Seminars, Workshops

For organizing professional events a lot of things have to be considered: From invitations, adverts, customer registration, presentation equipment, print materials to the seminar rooms –

All items should adhere to CD- / CI guidlines

Our Event-Team will support you for succesful organization



Example: IoT Seminars (RUTRONIK SMART and RUTRONIK EMBEDDED)

Preparation of seminar rooms



Further Links:

"How to"-Guide -
Organization of IoT Seminars

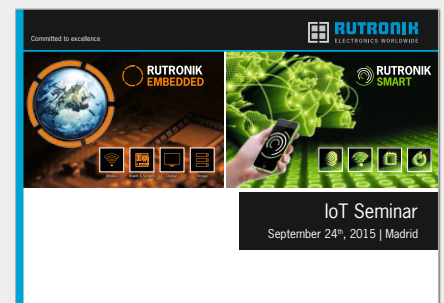
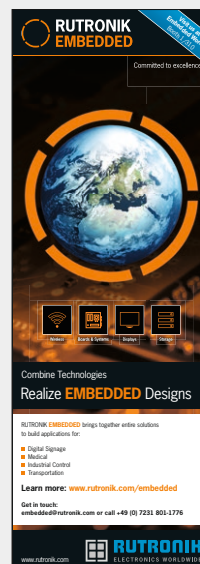
A comprehensive Guidline
includes the following topics:



1. Preparing the venue
2. Check-in
3. Packing lists
4. Coffee breaks / lunch break
5. USB sticks for participants/seminar feedback
6. Seminar certificat for participants
7. Billing
8. After the seminar



Adverts



Name Badges



Events, Seminars, Workshops

Seminar Invitations

Elements

- 1 Header**
 - Seminar Name
 - Event Date & Location
- 2 Main Image**
- 3 Contact Address**
- 4 Tax notification (fix element)**

Design Area

Examples

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IoT Seminar
September 24th, 2015 | Madrid

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IoT Seminar
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Agenda Room 2
08:00 h Reception assistants
09:00 h Apertura Seminario / Presentation
10:00 h Advantech: From Module to Gateway - The way to the IoT Device
10:45 h Colson: Smart
11:00 h Advantech: From Module to Gateway - The way to the IoT Device
11:45 h Fujitsu: Right-Sized Solutions
12:30 h Fujitsu: Right-Sized Solutions
13:15 h Lunch
14:45 h Infineon: From Module to Cloud
15:30 h Infineon: From Module to Cloud
16:15 h Open discussion
16:30 h Finalización del Seminario

Suppliers
Telit
Cellular, short-range, and QDS modules, design, investment, production, IoT/M2M, industrial M2M, industrial Cloud with PaaS and cloud back-end integration.
BOSCH
Environmental Sensing, Biometric Processing, Navigation, Sensor and Gateways, IoT, Intelligent, Absolute Orientation, M2M, Sensors
NORDIC
Make the low cost, small battery operated device fit for the Internet. Offered: Nordic nRF51, nRF52, nRF53, nRF54, nRF55, nRF56, nRF57, nRF58, nRF59, nRF60, nRF61, nRF62, nRF63, nRF64, nRF65, nRF66, nRF67, nRF68, nRF69, nRF70, nRF71, nRF72, nRF73, nRF74, nRF75, nRF76, nRF77, nRF78, nRF79, nRF80, nRF81, nRF82, nRF83, nRF84, nRF85, nRF86, nRF87, nRF88, nRF89, nRF90, nRF91, nRF92, nRF93, nRF94, nRF95, nRF96, nRF97, nRF98, nRF99, nRF100.
MICROCHIP
Various transmitters, receivers, transceivers and gateway control modules for IEEE 802.15.4 ZigBee®, Bluetooth®, LoRa®, and 4G LTE. Also, IEEE 802.11 Wi-Fi and most recently LoRa will be introduced and compared.
REDPINE SIGNALS
Redpine Signals will show how WPT, Bluetooth LE and 802.15.4 - 2g, low cost in its RSP113 product line and how they should be used.

Sources:

- Templates
- Link:
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RUTRONIK
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Herausgeber

Rutronik Elektronische Bauelemente GmbH
Industriestrasse 2
75228 Ispringen | Germany
Phone : +49 7231 801 0
Fax : +49 7231 82282
rutronik@rutronik.com
www.rutronik.de