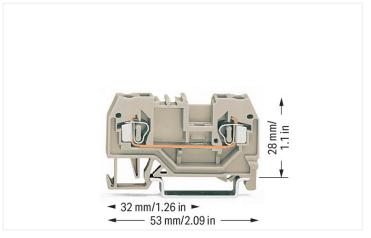
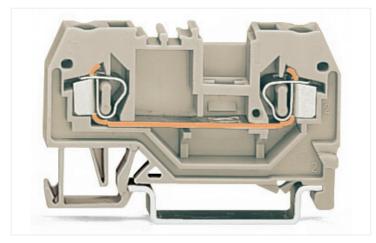
2-conductor through terminal block; 2.5 mm²; suitable for Ex e II applications; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; light gray



https://www.wago.com/280-992





Color: Iight gray



Similar to illustration

Electrical data			
Ratings per	IEC	C/EN 60947-	7-1
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	-	-	-
Rated surge voltage	-	-	-
Rated current	-	-	-

Approvals per	59
Jse group	D
Rated voltage	-
Rated current	-
Ţ.	•

Approvals per	С	SA 22.2 No 15	58
Use group	В	С	D
Rated voltage	-	600 V	-
Rated current	-	24 A	-

Ex information	
Reference hazardous areas	See application instructions in section "Knowledge and Downloads – Documentation – Additio- nal Information: Technical Section; Tech- nical Explications"
Ratings per	ATEX: PTB 99 ATEX 3109 U / IECEx: PTB 03.0004U (Ex eb IIC Gb or Ex eb I Mb)
Rated voltage EN (Ex e II)	550 V
Note (rated voltage)	Using staggered jumpers reduces the maximum rated voltage to 275 V.
Rated current (Ex e II)	23 A

Data Sheet | Item Number: 280-992 https://www.wago.com/280-992

Power Loss	
Power loss, per pole (potential)	0.7036 W
Rated current I_N for specified power loss	23 A
Resistance value for specified, current- dependent power loss	0.00133 Ω



 $8\dots 9\,\text{mm}\,\text{/}\,0.31\dots 0.35\,\text{inches}$

Front-entry wiring

WAGO spring clamp termis suitable for solid aluminum up to 4 mm²/12 AWG if Wa Contact Paste <a 249-130"="" go.com="" href="https://dx.ord.ord.ord.ord.ord.ord.ord.ord.ord.ord</th><th>on data</th><th></th><th></th><th></th></tr><tr><th>Connection technology Actuation type Operating tool Connectable conductor materials Copper Aluminum Connectable conductor materials (note) Terminating Aluminum Co WAGO spring clamp termis suitable for solid aluminum up to 4 mm/12 AWG if WW Contact Paste <a here!" htt="">>249-13 for termination. "Alu-Plus" Contact Paste A • Automatically destroys t during clamping, • Prevents fresh oxidation ping point. • Prevents electrolytic cor ween aluminum and coppe (in the same terminal block • Provides long-term prot corrosion. Using terminal blocks with CLAMP® Spring Pressure (Tachnology, aluminum con confirst be cleaned with a ble immediately be inserted in ping units filled with "Alu-P Paste. It is also possible to apply Plus" additionally on the of the aluminum conducto nation. Please note that the nomir must be adapted to the re tivity of the aluminum con 2.5 mm² = 16.4 4 mm² = 22 A Solid conductor 0.08 2.5 mm² / 28 12.				
Actuation type Connectable conductor materials Copper Aluminum Connectable conductor materials (note) Connectable conductor materials (note) Connectable conductor materials (note) Terminating Aluminum Cotto (MAGO spring clamp termin suitable for solid aluminum up to 4 mm²/12 aWGiff Wa Contact Paste <a "alu-paste.="" (in="" (pechnology,="" *="" a="" action.="" action.<="" adapted="" additionally="" also="" alu-plus"="" aluminum="" and="" apply="" automatically="" be="" bla="" block="" blocks="" clamping.="" clamp®="" cleaned="" conducton="" confirst="" contact="" coppe="" correvent="" destroys="" during="" electrolytic="" filled="" fresh="" href="https://doi.or./10.1001/10.100</td><td></td><td>2</td><td>Connection 1</td><td></td></tr><tr><td>Connectable conductor materials Copper Aluminum Connectable conductor materials (note) Connectable conductor materials (note) Terminating Aluminum Cotto (MAGO spring clamp termin suitable for solid aluminum up to 4 mm²17 2 Marif (Mago.com/249-130°s-249-13) for termination. " immediately="" in="" inserted="" is="" it="" long-term)="" must="" nomin="" note="" of="" on="" ong-term="" or="" oxidation="" paste="" ping="" please="" plus"="" point.="" possible="" pressure="" prevents="" protection="" provides="" retivity="" same="" spring="" td="" terminal="" that="" the="" to="" units="" vorithe="" with=""><td></td><td>1</td><td>Connection technology</td><td>CAGE CLAMP®</td>		1	Connection technology	CAGE CLAMP®
Connectable conductor materials (note) Connectable conductor materials (note) Terminating Aluminum Co. WAGO spring clamp terminisuitable for solid aluminum up to 4 mm²/12 AWG if WA Contact Paste a href="https://day-130">2249-13 for termination. "Alu-Plus" Contact Paste A • Automatically destroys to during clamping. • Prevents fresh oxidation ping of properties of the provides of the provides on the provides of the provides of the provides on the provides on the provides of the provides on the provides on the provides of the provides	1		Actuation type	Operating tool
WAGO spring clamp termis suitable for solid aluminum up to 4 mm²/12 AWG if WA Contact Paste h			Connectable conductor materials	
CLAMP® Spring Pressure of Technology, aluminum confirst be cleaned with a blate immediately be inserted in ping units filled with "Alu-P Paste. It is also possible to apply Plus" additionally on the vof the aluminum conductor nation. Please note that the noming must be adapted to the rectivity of the aluminum conductor of the			Connectable conductor materials (note)	"Alu-Plus" Contact Paste Advantage • Automatically destroys the oxide during clamping. • Prevents fresh oxidation at the claping point. • Prevents electrolytic corrosion be ween aluminum and copper conduct (in the same terminal block). • Provides long-term protection ag
Plus" additionally on the v of the aluminum conducto nation. Please note that the nomin must be adapted to the rectivity of the aluminum conductor 2.5 mm² = 16 A 4 mm² = 22 A Solid conductor 0.08 2.5 mm² / 28 12 Fine-stranded conductor 0.08 2.5 mm² / 28 12				Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, aluminum conductors first be cleaned with a blade and the immediately be inserted into the claping units filled with "Alu-Plus" Contraste.
must be adapted to the rectivity of the aluminum cond $2.5 \text{ mm}^2 = 16 \text{ A}$ $4 \text{ mm}^2 = 22 \text{ A}$ Solid conductor 0.08 $2.5 \text{ mm}^2 / 28 12$ Fine-stranded conductor 0.08 $2.5 \text{ mm}^2 / 28 12$				It is also possible to apply WAGO "Al Plus" additionally on the whole surf of the aluminum conductor before to nation.
Fine-stranded conductor 0.08 2.5 mm ² / 28 12				
			Solid conductor	0.08 2.5 mm² / 28 12 AWG
Note (conductor cross-section) 12 AWG: THHN, THWN			Fine-stranded conductor	0.08 2.5 mm² / 28 12 AWG
			Note (conductor cross-section)	12 AWG: THHN, THWN

Strip length

Wiring direction

https://www.wago.com/280-992



Physical data Width 5 mm / 0.197 inches Height 53 mm / 2.087 inches Depth from upper-edge of DIN-rail 28 mm / 1.102 inches

Mechanical data Mounting type DIN-35 rail Center marking Marking level

Material data	
Note (material data)	Information on material
	specifications can be found here
Color	light gray
Material group	
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.105 MJ
Weight	5.6 g

Environmental requirements Processing temperature -35 ... +85 °C Continuous operating temperature -60 ... +105 °C

27-14-11-20
27-14-11-20
EC000897
EC000897
100 pcs
Вох
DE
4044918392037
85369010000

Environmental Product Compliance	
RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates

General approvals



Inc.



	- —	
Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	2157201.01
CSA DEKRA Certification B.V.	C22.2	1536071
UL Underwriters Laboratories	UL 1059	E45172

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
ATEX-Attestation of Conformity WAGO GmbH & Co. KG	-	-
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

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Approvals for marine applications







Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	EN 60947	20-HG1941090-PDA
BV Bureau Veritas S.A.	EN 60947	07436/F0 BV
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2

Approvals for hazardous areas



ERC 🖾 *IECEX*

Approval	Standard	Certificate Name
AEx UL International Germany GmbH c/o Physikalisch Technische Bundesanstalt	UL 60079	E185892 (AEx e II resp. Ex e II)
ATEX Physikalisch Technische Bundesanstalt	IEC 60079-0	PTB 99 ATEX 3109 U (Ex eb IIC, IM 2 Ex eb IMb)
CCC CNEX	GB/T 3836.3	2020312313000232 (Ex eb IIC Gb, Ex eb I Mb)
EAC Brjansker Zertifizierungs- stelle	TP TC 012/2011	RU C-DE.AM02. B.00127/19
IECEx Physikalisch Technische Bundesanstalt	IEC 60079-0	IECEx PTB 03.0004U (Ex eb IIC Gb or Ex eb I Mb)

Downloads **Environmental Product Compliance** Compliance Search **Environmental Product** Compliance 280-992



CAD/CAE-Data			
CAD data		CAE data	
2D/3D Models 280-992	$\underline{\downarrow}$	EPLAN Data Portal 280-992	$\overline{\downarrow}$
		WSCAD Universe 280-992	\downarrow
		ZUKEN Portal 280-992	<u> </u>

https://www.wago.com/280-992



1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate

Item No.: 280-356



End and intermediate plate; 2.5 mm thick; light gray

Item No.: 209-191 Separator for Ex e/Ex i applications; 3 mm thick; 120 mm wide; orange

Separator for Ex e/Ex i applications; 3 mm thick; 90 mm wide; orange

Item No.: 280-357

Separator plate; 2 mm thick; oversized; light gray

1.2 Optional Accessories

1.2.1 DIN-rail

1.2.1.1 Mounting accessories

Item No.: 210-196

Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715: silver-colored

Item No.: 210-198

Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

Item No.: 210-508

Item No.: 209-190

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored

Item No.: 210-197

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715: silver-colored



Item No.: 210-506

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored

Item No.: 210-114

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715: silver-colored

Item No.: 210-118

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

Item No.: 210-115

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored



Item No.: 210-112

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored

Item No.: 210-504

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored

Item No.: 210-113

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

Item No.: 210-505

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

1.2.2 Ferrule

1.2.2.1 Ferrule

Item No.: 216-301

Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow

Item No.: 216-302

Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise

Item No.: 216-201

Item No.: 216-203

Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white

Item No.: 216-101

Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored



Ferrule; Sleeve for 0.75 mm² / 18 AWG; in-

sulated; electro-tin plated; gray

Item No.: 216-102

Ferrule: Sleeve for 0.75 mm² / AWG 20: uninsulated; electro-tin plated; silver-co-

Ferrule: Sleeve for 1 mm² / AWG 18: insulated; electro-tin plated; red

Item No.: 216-103

Ferrule: Sleeve for 1 mm² / AWG 18: uninsulated; electro-tin plated



Item No.: 216-204

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black

Item No.: 216-104

Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; silver-colo-



1.2.3 Installation

1.2.3.1 Cover



Item No.: 709-153

Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent

1.2.3.2 Cover carrier



Item No.: 709-167

Cover carrier; Type 1; incl. fixing/retaining screws and knurled nut; suitable for 279 to 282 and 880 Series rail-mounted terminal blocks; suitable for 264 Series miniature rail-mounted terminal blocks; suitable for 270 Series sensor and actuator terminal blocks; gray

1.2.3.3 Mounting accessories





Item No.: 209-106

Mounting carrier; for isolated mounting on DIN 35 rails; gray

Item No.: 249-116

Screwless end stop; 6 mm wide; for DINrail 35 x 15 and 35 x 7.5; gray

1.2.4 Insulation stop

1.2.4.1 Insulation stop







Item No.: 280-470

Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 5 pieces/strip; white

Item No.: 280-471

Insulation stop; 0.25 - 0.5 mm²; 5 pieces/ strip; light gray

Item No.: 280-472

Insulation stop; 0.75 - 1 mm²; 5 pieces/ strip; black

1.2.5 Jumper

1.2.5.1 Jumper

Item No.: 280-490

Jumper; 10-way; insulated; gray

Item No.: 280-482

Jumper; 2-way; insulated; gray

Item No.: 280-492

Jumper; 2-way; insulated; gray

N 000 400

<u>Item No.: 280-483</u> Jumper; 3-way; insulated; gray

Item No.: 280-484

Jumper; 4-way; insulated; gray

Item No.: 280-485

Jumper; 5-way; insulated; gray

Item No.: 280-402

Jumper; insulated; gray

Item No.: 280-409

Jumper; insulated; gray

Item No.: 280-422 Jumper; insulated; yellow-green

Item No.: 780-452

Staggered jumper; from 1 to 2; insulated; gray

Item No.: 780-453

Staggered jumper; from 1 to 3; insulated; gray

Item No.: 780-454

Staggered jumper; from 1 to 4; insulated; gray

Item No.: 780-455

Staggered jumper; from 1 to 5; insulated;

Item No.: 780-456

Staggered jumper; from 1 to 6; insulated; gray

Item No.: 780-457

Staggered jumper; from 1 to 7; insulated; gray

Item No.: 780-458

Staggered jumper; from 1 to 8; insulated; gray

https://www.wago.com/280-992



1.2.6 Marking

1.2.6.1 Double marker carrier



Item No.: 209-128 Adaptor; gray

1.2.6.2 Group marker carrier





Item No.: 209-142

Group marker carrier; gray



Group marker carrier; gray

Item No.: 793-5501/000-017

1.2.6.3 Marker

Item No.: 209-140

Group marker carrier; gray





WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; blue



Item No.: 793-5501/000-012

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; orange





Item No.: 793-5501/000-002

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; yellow



Item No.: 793-501/000-017

WMB marking card; as card; not stretchable; plain; snap-on type; light green



Item No.: 793-501

WMB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 2009-115/000-023

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green



Item No.: 2009-115

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

Item No.: 793-5501/000-007

Item No.: 209-141

Group marker carrier; gray

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; gray



Item No.: 793-5501/000-005

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; red



Item No.: 793-501/000-006 WMB marking card; as card; not stretchable; plain; snap-on type; blue



Item No.: 793-501/000-012 WMB marking card; as card; not stretchable; plain; snap-on type; orange



Item No.: 793-501/000-002

WMB marking card; as card; not stretchable; plain; snap-on type; yellow



Item No.: 2009-115/000-017 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green



Item No.: 2009-115/000-002

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow



Item No.: 793-5501/000-023

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; green



Item No.: 793-5501/000-024

Item No.: 793-501/000-007

ble; plain; snap-on type; gray

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; violet



Item No.: 793-5501

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 -5.2 mm; plain; snap-on type; white

WMB marking card; as card; for terminal

block width 5 - 17.5 mm; stretchable 5 -

5.2 mm; plain; snap-on type; light green





Item No.: 793-501/000-023

WMB marking card; as card; not stretchable; plain; snap-on type; green

WMB marking card; as card; not stretcha-



WMB marking card; as card; not stretcha-

Item No.: 793-501/000-005

Item No.: 2009-115/000-012

snap-on type; orange

WMB marking card; as card; not stretchable; plain; snap-on type; red



Item No.: 2009-115/000-006 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

WMB-Inline; for Smart Printer; 1500 pie-

ces on roll; stretchable 5 - 5.2 mm; plain;



Item No.: 2009-115/000-007

Item No.: 793-501/000-024

ble; plain; snap-on type; violet

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray



Item No.: 2009-115/000-024

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet



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1.2.7 Protective warning marker

1.2.7.1 Cover



Item No.: 280-415

Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.2.8 Push-in type wire jumper

1.2.8.1 Jumper

Item No.: 249-126



Push-in type wire jumper; 0.75 mm²; insu-



Push-in type wire jumper; 0.75 mm²; insulated; 180 mm long; black



Item No.: 249-127

Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; black



Item No.: 249-125

Push-in type wire jumper; insulated; 60 mm long; black

1.2.9 Tool

1.2.9.1 Operating tool

lated; 110 mm long; black



Operating tool; Blade: 3.5×0.5 mm; with a partially insulated shaft; angled; short; multicoloured

Item No.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured



Item No.: 210-657
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicolou-

Installation Notes

Installation



Snapping a terminal block onto the DIN-rail



Quick assembly keys prevent reverse mounting.



Removing a terminal block from the assembly.



Steel DIN-rails are not suited for PEN (ground and N-conductor) applications per EN 60947-7-2 (VDE 0611, Part 3).

Conductor termination



CAGE CLAMP® connection Inserting a conductor.



CAGE CLAMP® connection
Inserting a conductor.
With ferruled conductors, it is necessary to use a terminal block one size larger than the conductor's nominal cross-section.



Inserting insulation stops.



CAGE CLAMP® connection Removing a solid conductor.



Commoning



Commoning using an adjacent jumper. Push jumper down until fully inserted!



Staggered jumpers are suitable for sophisticated circuit requirements. Push jumpers down until fully inserted!



Push-In Type Wire Jumpers

When installing machines or control systems, it is often necessary to make an additional connection between two terminal blocks that are not next to each other on the rail. In such cases, WAGO's touchproof, push-in type wire jumpers are the ideal solution.

These jumpers are compatible with the following rail-mount terminal blocks:

- 279 Series (1.5 mm²/16 AWG),
- 280/775/780 Series (2.5 mm²/14 AWG) - 281/769/776/777/781 and 880 Series (4 mm²/12 AWG)

They are available in three conductor lengths (60, 110 and 250 mm), allowing up to 60 terminal blocks to be commoned depending on their width (see table on the right).

The 280/775/780 and 281/776/777/781 Series Terminal Blocks accept two wire jumpers, allowing the use of commoning chains. Furthermore, the 280/769/775/780/880 and 281/776/777/781 Series allow both wire jumper and adjacent jumper to be simultaneously plugged into a same terminal



Commoning using comb-style jumper bars:

Push comb-style jumper bars down until fully inserted.

Cover



Protective warning markers inserted into the operating slots

Marking



Labeling via WMB Multi Marking System.

https://www.wago.com/280-992



Ex application



Separator plate for Ex e/Ex i applications

According to EN 50020, a minimum distance of 50 mm must be kept between live parts of Ex e and Ex i circuits. The use of Ex e/Ex i separators is a space-saving solution when Ex e and Ex i terminal blocks are mounted on a common DIN-rail

For 279 ... 282 Series: 209-190 for 2-conductor terminal blocks 209-191 for 2-, 3-, 4-conductor terminal blocks



End and intermediate plate

In order to meet creepage and clearance requirements for Ex e applications, it is necessary to insert an end or intermediate plate between a through and a ground conductor terminal block.

Subject to changes. Please also observe the further product documentation!

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