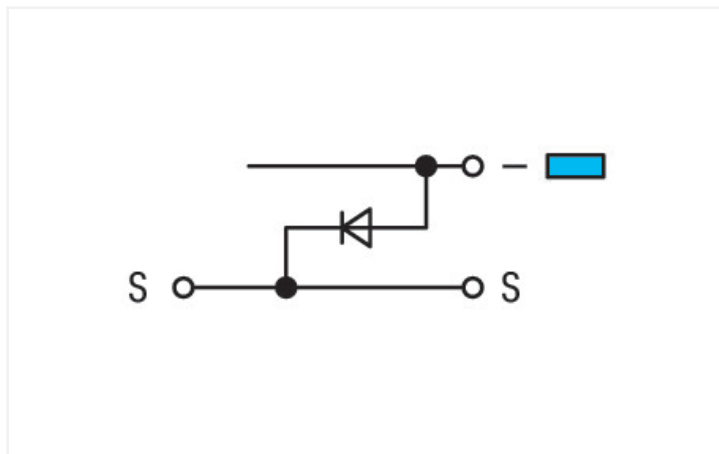
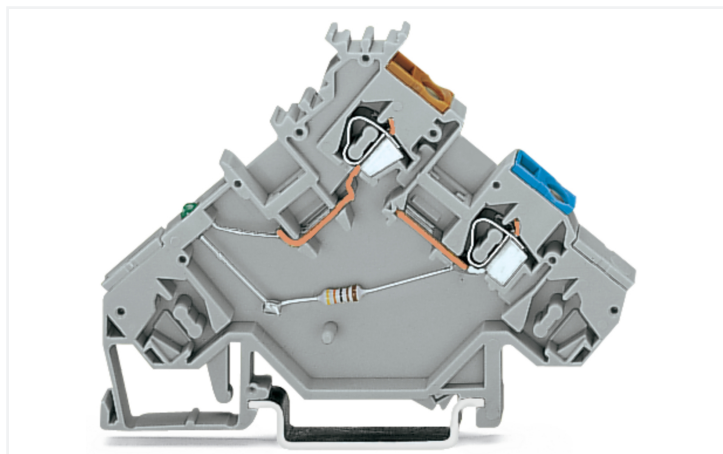


## Data Sheet | Item Number: 280-562/281-411

2-conductor actuator terminal block; with 1N4007 recovery diode; with colored conductor entries; 2.5 mm<sup>2</sup>; CAGE CLAMP®; 2,50 mm<sup>2</sup>; gray

<https://www.wago.com/280-562/281-411>



Color: ■ gray

Similar to illustration

Actuator terminal block, 280 Series, operating tool

This actuator terminal block (item number 280-562/281-411) simplifies electrical installations. Conductors should only be connected to this actuator terminal block if their strip length is between 8 and 9 mm. This product incorporates conductor terminals and utilizes CAGE CLAMP®. Our CAGE CLAMP® connection provides a proven and maintenance-free way to connect all types of conductors. You do not need to prepare the conductor in any way, such as crimping ferrules. This actuator terminal block is suitable for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup>.

### Electrical data

#### Ratings per IEC/EN

Nominal voltage (III/3)	400 V
Rated impulse withstand voltage (III / 3)	6 kV
Rated current	20 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

#### Ratings per IEC/EN 2

Rated voltage (III / 3)	250 V
Rated impulse withstand voltage (III/3)	4 kV
Rated current	20 A

### Power Loss

Power loss, per pole (potential)	0.532 W
Rated current $I_N$ for power loss specification	20 A
Resistance value for specified, current-dependent power loss	0.00133 Ω

### General information

Wiring direction	Front-entry wiring
------------------	--------------------

### Connection Data

Clamping units	3
Total number of potentials	2
Number of levels	3

#### Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum

## Connection 1

Connectable conductor materials (note) **Terminating Aluminum Conductors**  
WAGO Spring-Clamp Terminal Blocks are suitable for solid aluminum conductors up to 4 mm<sup>2</sup>/12 AWG if WAGO "Alu-Plus" Contact Paste [249-130](#) is used for termination.

"Alu-Plus" Contact Paste Advantages:

- Automatically destroys the oxide film during clamping.
- Prevents fresh oxidation at the clamping point.
- Prevents electrolytic corrosion between aluminum and copper conductors (in the same terminal block).
- Provides long-term protection against corrosion.

Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, **aluminum conductors must first be cleaned with a blade** and then immediately inserted into the clamping units filled with "Alu-Plus" contact paste.

It is also possible to apply WAGO "Alu-Plus" **additionally** on the whole surface of the aluminum conductor before termination.

Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:  
2.5 mm<sup>2</sup> = 16 A  
4 mm<sup>2</sup> = 22 A

Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Wiring direction	Front-entry wiring

## Physical data

Width	5 mm / 0.197 inches
Height	80 mm / 3.15 inches
Depth from upper-edge of DIN-rail	55.5 mm / 2.185 inches

## Mechanical data

Design	angled
Mounting type	DIN-35 rail
Marking level	Center marking

## Material data

Note (material data)	<a href="#">Information on material specifications can be found here</a>
Color	gray
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.202 MJ
Weight	10.1 g

### Environmental requirements

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

### Commercial data

Product Group	1 (Rail Mounted Terminal Blocks)
PU (SPU)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454194550
Customs tariff number	85369010000

### Product Classification

UNSPSC	39121410
eCl@ss 10.0	27-14-11-28
eCl@ss 9.0	27-14-11-28
ETIM 9.0	EC000900
ETIM 10.0	EC000900
ECCN	NO US CLASSIFICATION

### Environmental Product Compliance

CAS-No.	7439-92-1 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Lead
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	7(a)
SCIP notification number (Austria)	d9f92389-2054-4a27-b2f3-97722f05f9c0
SCIP notification number (Belgium)	e0133911-6fda-4680-bc0a-020a52d13fa0
SCIP notification number (Bulgaria)	4fecfd6c-4306-4ba4-9bb8-a9301690c699
SCIP notification number (Czech Republic)	e6bd3c9d-b497-4963-bcee-a2e31652cd90
SCIP notification number (Denmark)	edd28ff7-a734-4fb5-bc4c-d3749e3d1d8a
SCIP notification number (Finland)	3c4e7782-8e96-40b6-a87b-aacc5baef9de
SCIP notification number (France)	aa085ec2-4acb-4a3e-a0c4-fb37353f7e3e
SCIP notification number (Germany)	6d37df3a-bfe3-4f6c-b8bf-d58814d5cc8c
SCIP notification number (Hungary)	cb28a56c-8101-431b-af38-a5874b161a84
SCIP notification number (Italy)	f131bb2a-1ff1-482f-a327-d9af8d0034b9
SCIP notification number (Netherlands)	316c7433-d2d5-459d-af26-2489a271e496
SCIP notification number (Poland)	3cc7742b-9769-443a-85b2-5d41913a7885
SCIP notification number (Romania)	767033ab-1015-46c4-a5b5-b47b516abe21
SCIP notification number (Sweden)	01daa877-90e7-4b01-9493-14d8723472c2

### Approvals / Certificates

#### General approvals



Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	2160584.53
UR Underwriters Laboratories Inc.	UL 1059	E45172

#### Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	EN 60947	24-0152298-PDA
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 280-562/281-411	<a href="#">↓</a>

Documentation

Bid Text			
280-562/281-411	19.02.2019	xml 3.41 KB	<a href="#">↓</a>
280-562/281-411	14.03.2017	doc 25.50 KB	<a href="#">↓</a>

CAD/CAE-Data

CAD data	
2D/3D Models 280-562/281-411	<a href="#">↓</a>

CAE data	
EPLAN Data Portal 280-562/281-411	<a href="#">↓</a>
WSCAD Universe 280-562/281-411	<a href="#">↓</a>
ZUKEN Portal 280-562/281-411	<a href="#">↓</a>

## 1 Compatible Products

### 1.1 Required Accessories

#### 1.1.1 End plate

##### 1.1.1.1 End plate



**Item No.: 280-319**

End and intermediate plate; 1 mm thick; for triple-deck terminal blocks; gray

**Item No.: 280-321**

End and intermediate plate; 1 mm thick; for triple-deck terminal blocks; orange

### 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**

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 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow

**Item No.: 216-302**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise

**Item No.: 216-201**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white

**Item No.: 216-101**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / AWG 22; un-insulated; electro-tin plated; silver-colored



**Item No.: 216-202**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray

**Item No.: 216-102**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / AWG 20; un-insulated; electro-tin plated; silver-colored

**Item No.: 216-203**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; red

**Item No.: 216-103**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; un-insulated; electro-tin plated



**Item No.: 216-204**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; black

**Item No.: 216-104**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; un-insulated; electro-tin plated; silver-colored

### 1.2.3 Installation

#### 1.2.3.1 Cover



**Item No.: 709-154**

Cover; Type 2; suitable for cover carrier, type 2; 1 m long; transparent

#### 1.2.3.2 Cover carrier



**Item No.: 709-168**

Cover carrier; Type 2; incl. fixing/retaining screws and knurled nut; suitable for 283 to 285 Series rail-mounted terminal blocks; suitable for 279 to 281 Series double- and triple-deck terminal blocks; suitable for 780 to 785, 775, 776 and 777 Series TOP-JOB® rail-mounted terminal blocks; suitable for 280 Series sensor and actuator terminal blocks; suitable for 282 Series disconnect/test terminal blocks for transformer circuits; gray

#### 1.2.3.3 Mounting accessories



**Item No.: 249-116**

Screwless end stop; 6 mm wide; for DIN-rail 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 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st"); 5 pieces/strip; white



**Item No.: 280-471**

Insulation stop; 0.25 - 0.5 mm<sup>2</sup>; 5 pieces/strip; light gray



**Item No.: 280-472**

Insulation stop; 0.75 - 1 mm<sup>2</sup>; 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



**Item No.: 280-483**

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.: 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; gray



**Item No.: 780-456**



























Staggered jumper; from 1 to 6; insulated; gray

1.2.5.1 Jumper

 <p><b>Item No.: 780-457</b> Staggered jumper; from 1 to 7; insulated; gray</p>	 <p><b>Item No.: 780-458</b> Staggered jumper; from 1 to 8; insulated; gray</p>	 <p><b>Item No.: 709-110</b> Wire commoning chain; 2.5 mm<sup>2</sup>; insulated; black</p>	 <p><b>Item No.: 709-111</b> Wire commoning chain; 2.5 mm<sup>2</sup>; insulated; black</p>
 <p><b>Item No.: 709-112</b> Wire commoning chain; 2.5 mm<sup>2</sup>; insulated; black</p>	 <p><b>Item No.: 210-103</b> Wire commoning chain; insulated; black</p>	 <p><b>Item No.: 210-123</b> Wire commoning chain; insulated; blue</p>	

1.2.6 Marking

1.2.6.1 Marker

 <p><b>Item No.: 793-5501/000-006</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; blue</p>	 <p><b>Item No.: 793-5501/000-007</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; gray</p>	 <p><b>Item No.: 793-5501/000-023</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>	 <p><b>Item No.: 793-5501/000-017</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green</p>
 <p><b>Item No.: 793-5501/000-012</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p>	 <p><b>Item No.: 793-5501/000-005</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; red</p>	 <p><b>Item No.: 793-5501/000-024</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p>	 <p><b>Item No.: 793-5501</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>
 <p><b>Item No.: 793-5501/000-002</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow</p>	 <p><b>Item No.: 793-501/000-006</b> WMB marking card; as card; not stretchable; plain; snap-on type; blue</p>	 <p><b>Item No.: 793-501/000-007</b> WMB marking card; as card; not stretchable; plain; snap-on type; gray</p>	 <p><b>Item No.: 793-501/000-023</b> WMB marking card; as card; not stretchable; plain; snap-on type; green</p>
 <p><b>Item No.: 793-501/000-017</b> WMB marking card; as card; not stretchable; plain; snap-on type; light green</p>	 <p><b>Item No.: 793-501/000-012</b> WMB marking card; as card; not stretchable; plain; snap-on type; orange</p>	 <p><b>Item No.: 793-501/000-005</b> WMB marking card; as card; not stretchable; plain; snap-on type; red</p>	 <p><b>Item No.: 793-501/000-024</b> WMB marking card; as card; not stretchable; plain; snap-on type; violet</p>
 <p><b>Item No.: 793-501</b> WMB marking card; as card; not stretchable; plain; snap-on type; white</p>	 <p><b>Item No.: 793-501/000-002</b> WMB marking card; as card; not stretchable; plain; snap-on type; yellow</p>	 <p><b>Item No.: 2009-115/000-006</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue</p>	 <p><b>Item No.: 2009-115/000-007</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray</p>
 <p><b>Item No.: 2009-115/000-023</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>	 <p><b>Item No.: 2009-115/000-017</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green</p>	 <p><b>Item No.: 2009-115/000-012</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p>	 <p><b>Item No.: 2009-115/000-024</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p>
 <p><b>Item No.: 2009-115</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>	 <p><b>Item No.: 2009-115/000-002</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow</p>		

## 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 mm<sup>2</sup>; insulated; 110 mm long; black



**Item No.: 249-123**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; insulated; 180 mm long; black



**Item No.: 249-127**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; insulated; 250 mm long; black



**Item No.: 249-125**

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

## 1.2.9 Test and measurement

### 1.2.9.1 Testing accessories



**Item No.: 209-170**

Test plug adapter; 8.3 mm wide; for 4 mm Ø test plugs; suitable for 1.5 mm<sup>2</sup> - 10 mm<sup>2</sup> tbs; gray

## 1.2.10 Tool

### 1.2.10.1 Operating tool



**Item No.: 210-658**

Operating tool; Blade: 3.5 x 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

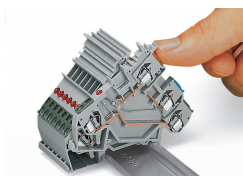


**Item No.: 210-657**

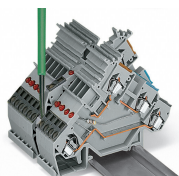
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

## Installation Notes

### Installation

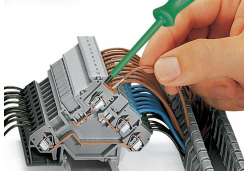


Snapping a terminal block onto the DIN-rail. Terminal blocks with a grounding foot automatically establish a direct contact to the rail.



Removing the terminal block from DIN-rail. Notice: Remove jumper contacts first!

## Conductor termination



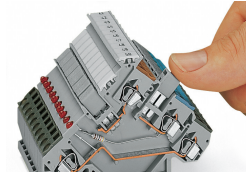
### CAGE CLAMP® connection

Inserting a conductor via straight operating tool (210-720).

### CAGE CLAMP® connection

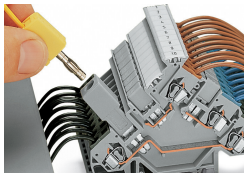
Inserting a conductor via angled operating tool (210-658).

## Commoning

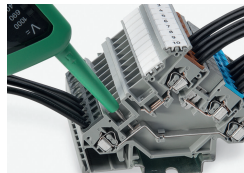


Commoning using an adjacent jumper (280-402).  
Push jumper down until fully inserted.

## Testing

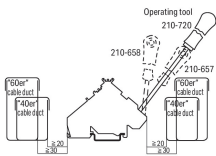


Testing via banana plug and test plug adapter (209-170).



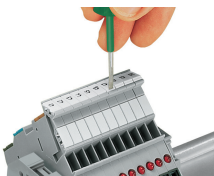
Testing via voltage tester directly on the current bar.

## Installation



Min. mounting distance – terminal blocks to cable duct

## Marking



Labeling via WMB Multi Marking System.