



SWITCHGEAR

ARS pro

vertical fuse switch disconnectors

- fibre glass extra strenghtened, self extinguishing thermoplastics of V0 flammability class
- double clearance between open contacts
- arc chutes with deionization plates over every contact
- reversibility - top/bottom cable terminal connection
- wide range of accesories







GENERAL INFORMATION

ARS vertical fuse switch disconnectors are designed for distribution of electricity and protection against short circuits and overloads in three phase alternative current circuits. They are intended for direct installation on horizontal or vertical busbar systems.

ARS pro fuse switch disconnectors meet technical requirements of polish and other european electricity boards and are conforming to EN 60947-1, EN 60947-3, IEC 60947-1, IEC 60947-3 standards. **ARS pro** fuse switch disconnectors are dedicated for applications which require reliability and safety like low voltage distribution boards installed in transformer substations, industrial low voltage distribution boards and cable cabinets.

Removal of the fuse links provides clearly noticeable, large isolating distances in the circuit.

ARS fuse switch disconnectors are designed to perform the following functions:

- protection,
- energy distribution,
- earthing,
- switching,
- touch protection.

CONSTRUCTION

ARS pro fuse switch disconnectors are manufactured in two versions:

- one pole switching (separately each pole)
- three pole switching (three poles at the same time)

They have manually operated handle therefore making and breaking operations should be done with determined movement.

ARS pro fuse switch disconnectors are available in following sizes (according to rated current): 00 (160 A); 2 (400 A); 3 (630 A), also 910 A and 1250 A.

ARS pro fuse switch disconnectors are designed for installation on to 185 mm busbar system.

ARS pro of size 00 are manufactured in two versions depending on busbar system:

- **ARS 00 pro** fuse switch disconnector (160 A) for installation on to 185 mm busbar system
- **ARS 00/100mm pro** fuse switch disconnector (160 A) for installation on to 100 mm busbar system

Installation on to 185 mm busbar system is possible by using adapter.

Main base of fuse switch disconnector **ARS pro** is made of halogen free, fibre glass strengthened, self extinguishing, thermoset polyester of V0 flammability class. Other plastic parts of fuse switch disconnectors **ARS pro** are made of fibre glass strengthened, thermoplastic polyamides with halogen free flame retardant added. Thanks to such addition the highest flammability class – V0 was achieved. Fuse switch disconnectors made from such thermoplastics self-extinguish in specified time after ignition source is removed. Also dripping of flaming parts of plastic does not occur.

Silver plated contacts provide low power loss. Depending on clamp type, **ARS pro** fuse switch disconnectors enable user to connect circular or sector-shaped conductors with bare ends or conductors with lug terminals. Arc chute with deionization plates is installed over each contact. Such design provides efficiency of arc extinction and controlled exhaust of arc plasma. **ARS pro** fuse switch disconnectors are adapted for using current transformers and ammeters. Protection degree of IP30 from the front is provided. Additionally offered accessories enable to install **ARS** fuse switch disconnectors of different sizes on common busbar systems. All sizes of **ARS pro** fuse switch disconnectors are provided complete with clamps (i. e. screws, V-terminals, 2V-terminals) and shrouds for cable terminals.

Table 1. TECHNICAL DATA ARS pro

Parameters		ARS 00/100 mm pro	ARS 00 pro	ARS 2 pro	ARS 3 pro	ARS 630 kVA pro	RWS 1250 pro	ARS 1250 pro	
Rated thermal current I _{th} =I _n with fuse links		A	160	160	400	630	910	-	1250
Rated thermal current I _{th} with solid links		A	-	-	600	750	-	1250	-
Rated voltage U _n		V	690	690	690	690	400	400	400
Utilization category		690 V	AC-22B	AC-22B	AC-22B	AC-21B	-	-	-
		500 V	-	-	-	AC-22B	-	-	-
		400 V	AC-23B	AC-23B	AC-23B	AC-23B	AC-22B	AC-22B	AC-21B
Rated switching current I _e		A	160	160	400	630	910	1250	1250
Rated short-circuit making current	690 V	kA	25	80	100	80	-	-	-
	500 V			-		-	-		-
	400 V			100		100	50		100
Rated short-circuit withstand current	690 V	kA	100	80	100	80	-	-	-
	500 V			-		-	-		-
	400 V			100		100	50		100
Rated insulation voltage U _i		V	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U _{imp.}		kV	8	12	12	12	12	12	12
Rated short time withstand current I _{cw}		kA	-	-	12 ² /15 ³)	14 ² /16 ³)	-	15/20 ⁴)	-
Rated frequency		Hz	50-60	50-60	50-60	50-60	50-60	50-60	50-60
Mechanical durability	Number of cycles		1600	1600	1000	1000	600	600	600
Electrical durability			200	200	200	200	100	100	100
IP degree of protection		IP	30	20	30	30	30	30	30
Fuse links size		-	00	00	1, 2	3	gTr 630 kVA ¹⁾	solid-links TM 3-1250 A	3

¹⁾ fuse link gTr 630 kVA, DIN 43620, VDE 0636/2011 voltage²⁾ for disconnectors 1-phase disconnected³⁾ for disconnectors 3-phase disconnected⁴⁾ with mechanical lock

OPERATING CONDITIONS

- to be installed in the room free of any dust, aggressive or explosive gases,
- altitude up to 2000 meters above sea level,
- outdoor – in cabinets with protection degree > IP 34,
- ambient temperature from -25 °C to +55 °C,
- relative humidity of the air should not be higher than 50% at temperature of +40°.

FUNCTIONALITY

- making and breaking operations should be done with determined movement,
- parallelly moving, double contact system,
- designed for installation on to 100 mm or 185 mm busbar system,
- two versions: single pole switching (separately each pole) or triple pole switching (three poles at the same time),
- fuse switch disconnectors width: 50 mm, 100 mm, 200 mm,
- suitable for top cable terminal connection,
- possible connection of circular or sector-shaped conductors with bare ends (V-terminals, 2V-terminals or conductors with lug terminals (screw terminals),
- Voltage test is performed through test holes leading to blade contacts,
- possible installation of various types of earthing devices.

**FUSE SWITCH DISCONNECTOR ARS 00/100mm pro (160 A, 690 V)**

For installation on to 100 mm busbar system

Fuse switch disconnecter's width 50 mm

Three pole switching - all phases simultaneously

Padlocking
in parked
and closed
position

Test holes

Fuse link cover label
(one label for each phase)

Hole for sealing
of terminal shroud

Terminal shroud label

ARS 00/100 mm pro



ARS 00/100 mm pro (160 A, 690 V)

Table 2. TECHNICAL DATA

Parameters		ARS 00/100 mm pro	
Rated thermal current $I_{th}=I_n$	A	160	
Rated voltage U_n	V	690	
Utilization category	-	AC-22B	AC-23B
Rated switching voltage U_e	V	690	400
Rated switching current I_e	A	160	
Rated short circuit making current	kA	25	
Rated short circuit withstand current	kA	100	
Rated insulation voltage U_i	V	1000	
Rated impulse withstand voltage U_{imp}	kV	8	
Rated frequency	Hz	50-60	
Mechanical durability	Number of cycles	1600	
Electrical durability		200	
IP degree of protection	IP	30	
Fuse links size	-	00	

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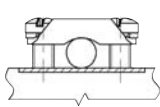
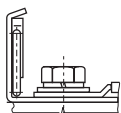
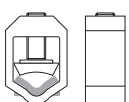



ARS 00/100 mm pro

Table 3. VERSIONS

Version of ARS 00/100 mm pro		Weight	Article No.
three pole switching - all phases simultaneously (for installation on to 100 mm busbar system)			
ARS 00/100 mm pro	cable terminals: bridge terminals with bridge clamps (S) 4-70 mm ² , screw terminals with M8 screws	1,3 kg	63-811628-041
ARS 00/100 mm-V pro	cable terminals: V-terminals with V-clamps 25-120SW	1,5 kg	63-811628-061
ARS 00/100 mm-V pro	cable terminals: V-terminals, without V-clamps	1,3 kg	63-811628-071

Table 4. ARS 00/100 mm pro TERMINAL CLAMPS

Description	ARS 00/100 mm pro			
Clamp	S-bridge clamp 2 x M5 x 25	M8 screw*	V-clamp 25-120 SW	HM 10-120
Picture of clamp				
Drawing of clamp				
Cross-section of conductors	4 - 70 mm ²	Conductor with lug terminal max 185 mm ²	re ● 16 mm ² - 95 mm ²	re ● 10 mm ² - 70 mm ²
			se ◆ 25 mm ² - 120 mm ²	se ◆ 20 mm ² - 120 mm ²
			rm ⊗ 16 mm ² - 95 mm ²	rm ⊗ 10 mm ² - 70 mm ²
			sm ⊕ 25 mm ² - 120 mm ²	sm ⊕ 25 mm ² - 95 mm ²
Tightening torque	3 Nm**	12 Nm**	20 Nm**	15 Nm**

For stranded conductors using cable ferrules is recommended

*) Bars of maximum width of 20 mm and maximum thickness of 5 mm can be fixed to M type screw terminals.

**) using tension wrench is recommended

***) fuse switch disconnectors with V-terminals are equipped with steel V-clamp HM 10-120 on request

Apator takes responsibility for technical quality of V-terminals manufactured only by the company. Minimum tightening torque (M8 screw) for screws fixing fuse switch disconnector to busbar system –12 Nm, recommended tightening torque for screws and nuts with property class 8.8 – 21 Nm

**FUSE SWITCH DISCONNECTOR ARS 00 pro (160 A, 690 V)**

For installation on to 185 mm busbar system

Fuse switch disconnectors' width 50 mm

Three pole switching - all phases simultaneously

- two-hand operation or one pole switching - each phase independently

Table 5. DANE TECHNICZNE

Parameters		ARS 00 pro	
Rated thermal current $I_{th}=I_n$	A	160	
Rated voltage U_n	V	690	
Utilization category	-	AC-22B	AC-23B
Rated switching voltage U_e	V	690	400
Rated switching current I_e	A	160	
Rated short circuit making current	690 V	kA	80
	400 V		100
Rated short circuit withstand current	690 V	kA	80
	400 V		100
Rated insulation voltage U_i	V	1000	
Rated impulse withstand voltage $U_{imp.}$	kV	12	
Rated frequency	Hz	50-60	
Mechanical durability	Number of cycles	1600	
Electrical durability		200	
IP degree of protection	IP	20	
Fuse links size	-	00	

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ARS 00-1 pro





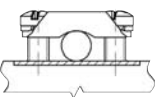
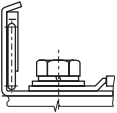
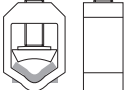



ARS 00-3 pro

Table 6. VERSIONS

Version		Weight	Article No.
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 00-1 pro	cable terminals: bridge terminals with bridge clamps (S) 4-70 mm ² , screw terminals with M8 screws	2,6 kg	63-811410-061
ARS 00-1-V pro	cable terminals: V-terminals with V-clamps 25-120SW	2,7 kg	63-811410-071
ARS 00-1-V pro	cable terminals: V-terminals, without V-clamps	2,6 kg	63-811410-101
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 00-3 pro	cable terminals: bridge terminals with bridge clamps (S) 4-70 mm ² , screw terminals with M8 screws	2,7 kg	63-811806-061
ARS 00-3-V pro	cable terminals: V-terminals with V-clamps 25-120SW	2,8 kg	63-811806-071
ARS 00-3-V pro	cable terminals: V-terminals, without V-clamps	2,7 kg	63-811806-101
ARS 00 pro with heightened rails adjusted to front line and terminal cover of ARS pro 2, 3			
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 00-1 pro	cable terminals: bridge terminals with bridge clamps (S) 4-70 mm ² , screw terminals with M8 screws	2,7 kg	63-811839-061
ARS 00-1-V pro	cable terminals: V-terminals with V-clamps 25-120SW	2,8 kg	63-811839-071
ARS 00-1-V pro	cable terminals: V-terminals, without V-clamps	2,7 kg	63-811839-101
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 00-3 pro	cable terminals: bridge terminals with bridge clamps (S) 4-70 mm ² , screw terminals with M8 screws	2,8 kg	63-811840-061
ARS 00-3-V pro	cable terminals: V-terminals with V-clamps 25-120SW	2,9 kg	63-811840-071
ARS 00-3-V pro	cable terminals: V-terminals, without V-clamps	2,8 kg	63-811840-101

Table 7. ARS 00 pro TERMINAL CLAMPS

Description	ARS 00 pro (160A)			
Clamp	S-bridge clamp 2 x M5 x 25	M8 screw*	V-clamp 25-120 SW	HM 10-120
Picture of clamp				 ***
Drawing of clamp				
Cross-section of conductors	4 - 70 mm ²	Conductor with lug terminal max 185 mm ²	re ● 16 mm ² - 95 mm ²	re ● 10 mm ² - 70 mm ²
			se ◐ 25 mm ² - 120 mm ²	se ◐ 25 mm ² - 120 mm ²
			rm ⊗ 16 mm ² - 95 mm ²	rm ⊗ 10 mm ² - 70 mm ²
			sm ⊗ 25 mm ² - 120 mm ²	sm ⊗ 25 mm ² - 95 mm ²
Tightening torque	3 Nm**	12 Nm**	20 Nm**	15 Nm**

For stranded conductors using cable ferrules is recommended
*) bars of maximum width of 20 mm and maximum thickness of 5 mm can be fixed to M type screw terminals
**) using tension wrench is recommended
***) fuse switch disconnectors with V-terminals are equipped with steel V-clamp HM 10-120 on request
Apator takes responsibility for technical quality of V-terminals manufactured only by the company. Minimum tightening torque (M8 screw) for screws fixing fuse switch disconnecter to busbar system – 12 Nm, recommended tightening torque for screws and nuts with property class 8.8 – 21 Nm

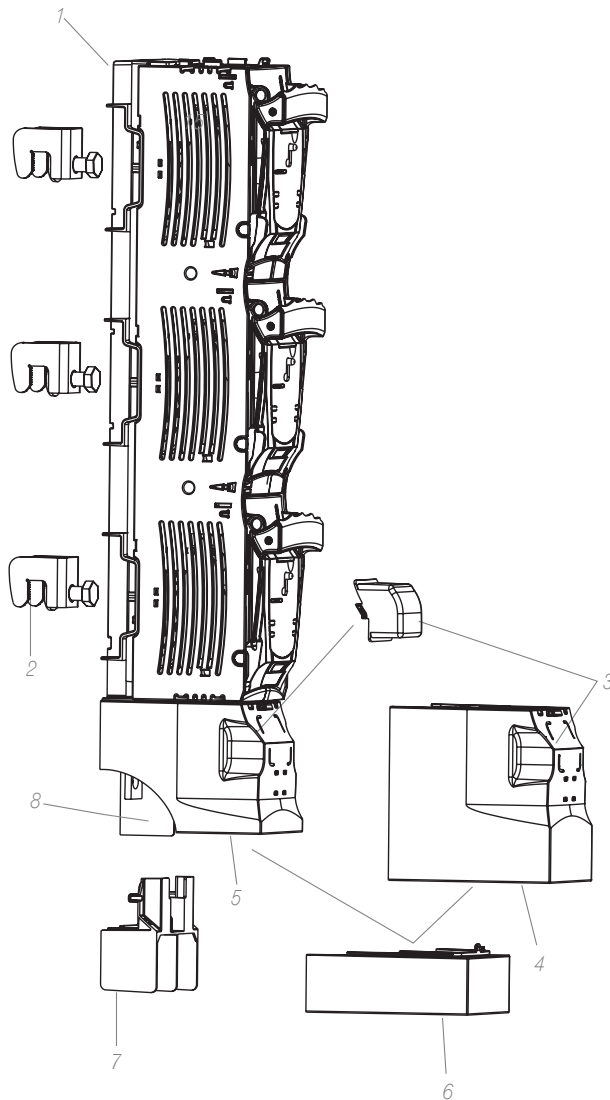


FUSE SWITCH DISCONNECTOR ARS 2 pro (400 A, 690 V) ARS 3 pro (630 A, 690 V)

For installation on to 185 mm busbar system

Fuse switch disconnecter's width 100 mm

Three pole switching - all phases simultaneously or one pole switching - each phase independently



DESCRIPTION

1. Main base
2. Hooked clamp – for installation on to busbar system 1115281037T
3. Terminal shroud for fuse switch disconnecter with double V-clamps (2 x 240 mm²)
4. Terminal shroud (long) 51-930271-021
5. Terminal shroud (short)
6. Bottom adjusting shroud 51-930313-011
7. Cable terminal protective cover 51-930272-011
8. Protective barrier

Sealing of each phase separately

Padlocking and sealing in closed and parked position

Possible connection of fused tee off adapter for temporary power supply

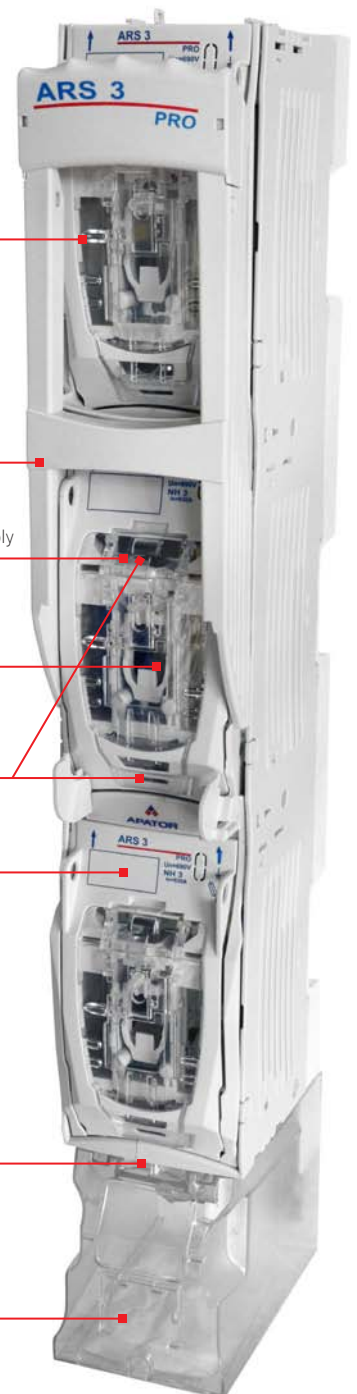
Possibility to use ammeter

Test holes

Fuse link cover labelling area

Hole for sealing of terminal shroud

Terminal shroud label



ARS 3-6-V pro

ARS 2 pro (400 A, 690 V)

Designed for operation with NH1 and NH2 fuse links

Table 8. TECHNICAL DATA

Parameters		ARS 2 pro	
Rated thermal current $I_{th} = I_n$ with fuse links	A	400	
Rated thermal current I_{th} with solid links	A	600	
Rated voltage U_n	V	690	
Utilization category	-	AC-22B	AC-23B
Rated switching voltage U_e	V	690	400
Rated switching current I_e	A	400	
Rated short circuit making current	kA	100	
Rated short circuit withstand current	kA	100	
Rated insulation voltage U_i	V	1000	
Rated impulse withstand voltage U_{imp}	kV	12	
Rated short time withstand current I_{cw}	kA	12 ²⁾ /15 ³⁾	
Rated frequency	Hz	50-60	
Mechanical durability	Number of cycles	1000	
Electrical durability		200	
IP degree of protection	IP	30	
Fuse links size	-	1, 2	

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²⁾ for disconnectors 1-phase disconnected

³⁾ for disconnectors 3-phase disconnected



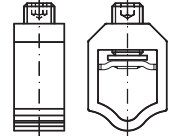
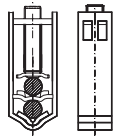









ARS 2-1-2V pro

ARS 2-6-V pro

Table 9. VERSIONS

Version		Weight	Article No.
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 2-1-V pro	cable terminals: V-terminals with V-clamps 240 mm ²	5,8 kg	63-811801-011
ARS 2-1-M pro	cable terminals: screw terminals with pressed nuts M10	5,7 kg	63-811801-031
ARS 2-1-2V pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	6,4 kg	63-811801-051
ARS 2-1-V pro	cable terminals: V-terminals without V-clamps	5,5 kg	63-811801-071
ARS 2-1-2V pro	cable terminals: 2V-terminals without double V-clamps	6,9 kg	63-811801-091
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 2-6-V pro	cable terminals: V-terminals with V-clamps 240 mm ²	5,8 kg	63-811802-011
ARS 2-6-M pro	cable terminals: screw terminals with pressed nuts M10	5,7 kg	63-811802-031
ARS 2-6-2V pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	6,4 kg	63-811802-051
ARS 2-6-V pro	cable terminals: V-terminals without V-clamps	5,5 kg	63-811802-071
ARS 2-6-2V pro	cable terminals: 2V-terminals without double V-clamps	5,9 kg	63-811802-091

Tabela 10. ARS 2 pro TERMINAL CLAMPS

Description	ARS 2-x-V pro (400 A)		ARS 2-x-2V pro (400 A)		ARS 2-x-M pro (400 A)			
Clamp	V-clamp 35-300SW-B		V-clamp HS 2/35-240-C		M10 screw (pressed nut)			
Drawing of clamp	Cross-section of conductors		Cross-section of conductors			Cross-section of conductors Lug terminal		
		V-clamp for direct fixing of conductor with bare end with crosssection of:						
		35 - 185 mm ² 		35 - 240 mm ² 			35 - 185 mm ² 	35 - 240 mm ² 
		35 - 240 mm ² 		35 - 300 mm ² 			35 - 240 mm ² 	35 - 300 mm ² 
Tightening torque	30 Nm		40 Nm		32 Nm			

For stranded conductors using cable ferrules is recommended

*) Bars of maximum width of 40 mm and maximum thickness of 8 mm can be fixed to M type screw terminals when protective barrier between phases is installed. Apator takes responsibility for technical quality of V-terminals manufactured only by the company. Minimum tightening torque (M12 screw) for screws fixing fuse switch disconnector to busbar system – 32 Nm, recommended tightening torque for screws and nuts with property class 8.8 – 56 Nm

**ARS 3 pro (630 A, 690 V)**

Table 11. TECHNICAL DATA

Parameters		ARS 3			
Rated thermal current $I_{th}=I_n$ with fuse links		A	630		
Rated thermal current I_{th} with solid links		A	750		
Rated voltage U_n		V	690		
Utilization category		-	AC-22B	AC-23B	AC-21B
Rated switching voltage U_e		V	500	400	690
Rated switching current I_e		A	630		
Rated short circuit making current	690 V	kA	80		
	500 V		100		
Rated short circuit withstand current		kA	100		
Rated insulation voltage U_i		V	1000		
Rated impulse withstand voltage U_{imp}		kV	12		
Rated short time withstand current I_{cw}		kA	12 ²⁾ /15 ³⁾		
Rated frequency		Hz	50-60		
Mechanical durability	Number of cycles		1000		
Electrical durability			200		
IP degree of protection		IP	30		
Fuse links size		-	3		

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²⁾ for disconnectors 1-phase disconnected³⁾ for disconnectors 3-phase disconnected

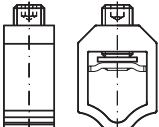
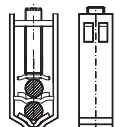









ARS 3-1-2V pro

ARS 3-6-V pro

Table 12. VERSIONS

Version		Weight	Article No.
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 3-1-V pro	cable terminals: V-terminals with V-clamps 240 mm ²	6,6 kg	63-811801-021
ARS 3-1-M pro	cable terminals: screw terminals with pressed nuts M12	6,5 kg	63-811801-041
ARS 3-1-2V pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	7,2 kg	63-811801-061
ARS 3-1-V pro	cable terminals: V-terminals without V-clamps	6,3 kg	63-811801-081
ARS 3-1-2V pro	cable terminals: 2V-terminals without double V-clamps	6,7 kg	63-811801-101
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 3-6-V pro	cable terminals: V-terminals with V-clamps 240 mm ²	6,6 kg	63-811802-021
ARS 3-6-M pro	cable terminals: screw terminals with pressed nuts M12	6,5 kg	63-811802-041
ARS 3-6-2V pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	7,2 kg	63-811802-061
ARS 3-6-V pro	cable terminals: V-terminals without V-clamps	6,3 kg	63-811802-081
ARS 3-6-2V pro	cable terminals: 2V-terminals without double V-clamps	6,7 kg	63-811802-101

Table 13. ARS 3 pro TERMINAL CLAMPS

Description	ARS 3-x-V pro (630 A)				ARS 3-x-2V pro (630 A)				ARS 3-x-M pro (630 A)	
Clamp	V-clamp 35-300SW-B				V-clamp HS 2/35-240-C				M12 screw (pressed nut)	
Drawing of clamp	Cross-section of conductors			Cross-section of conductors				Cross-section of conductors	Lug terminal	
		V-clamp for direct fixing of conductor with bare end with crosssection of:								
	35 - 185 mm ² 	35 - 240 mm ² 	35 - 185 mm ² 	35 - 240 mm ² 						
	35 - 240 mm ² 	35 - 300 mm ² 	35 - 240 mm ² 	35 - 300 mm ² 						
Tightening torque	30 Nm				40 Nm				56 Nm	

For stranded conductors using cable ferrules is recommended

*)Bars of maximum width of 40 mm and maximum thickness of 8 mm can be fixed to M type screw terminals when protective barrier between phases is installed.

Apator takes responsibility for technical quality of V-terminals manufactured only by the company Minimum tightening torque (M12 screw) for screws fixing fuse switch disconnector to busbar system – 32 Nm, recommended tightening torque for screws and nuts with property class 8.8 – 56 Nm

FUSE SWITCH DISCONNECTOR ARS 630 kVA pro

Fuse switch disconnecter ARS 630 kVA pro is dedicated for protection of transformers up to 630 kVA.

Fuse switch disconnecter is designed for operation with NH fuse links of size 3, with gTr characteristic.

For installation onto 185 mm busbar system.

Table 14. TECHNICAL DATA

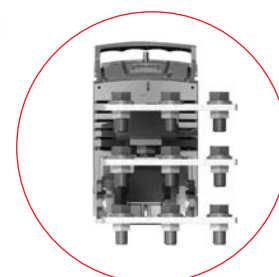
Parameters		ARS 630 kVA pro
Rated thermal current $I_{th} = I_n$	A	910
Rated voltage U_n	V	400
Utilization category	-	AC-22B
Rated switching voltage U_e	V	400
Rated switching current I_e	A	910
Rated short circuit making current	kA	50
Rated short circuit withstand current	kA	50
Rated insulation voltage U_i	V	1000
Rated impulse withstand voltage U_{imp}	kV	12
Rated frequency	Hz	50-60
Mechanical durability	Number of cycles	600
Electrical durability		100
IP degree of protection	IP	30
Weight	kg	9,8
Fuse links size	-	gTr 630 kVA ¹⁾

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¹⁾ Fuse link gTr 630 kVA, DIN 43620, VDE 0636/2011, the volume of NH3



ARS 630 kVA pro



Cable terminal:
three pressed nuts M12




Cable terminal:
two pressed nuts M12

Table 15. VERSIONS

Versions of 630 kVA pro		Article No.
one pole switching - each phase independently		
ARS 630 kVA-1-2M pro	cable terminals: screw terminals with two pressed nuts M12/pole , width 100 mm	63-811860-001
ARS 630 kVA-1-3M pro	cable terminals: screw terminals with three pressed nuts M12/pole , width 200 mm	63-811860-002
three pole switching - all phases simultaneously		
ARS 630 kVA-6-2M pro	cable terminals: screw terminals with two pressed nuts M12/pole , width 100 mm	63-811722-011
ARS 630 kVA-6-3M pro	cable terminals: screw terminals with three pressed nuts M12/pole , width 200 mm	63-811722-021

Recommended tightening torque (M12 screw) for screws fixing fuse switch disconnecter to busbar system – 56Nm, screws and nuts property class 8.8.

Table 16. ARS 630 kVA pro TERMINAL CLAMPS

Description	ARS 630 kVA pro
Clamp	pressed nuts M12
Drawing of clamp	
Cross-section of conductors	Cable lugs, max 300 mm ²
Tightening torque	56 Nm



SWITCH DISCONNECTOR RWS 1250 pro

Main switch-disconnector 1250 A, equipped with NH3 solid-links 1250 A

Switch-disconnector's width 100 mm

For installation onto 185 mm busbar system

Table 17. TECHNICAL DATA

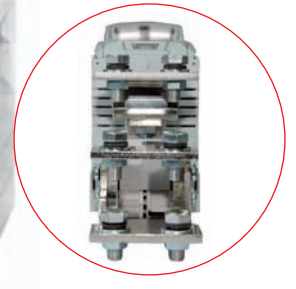
Parameters		RWS 1250 pro
Rated thermal current $I_{th} = I_n$	A	1250
Rated voltage U_n	V	400
Utilization category	-	AC-22B
Rated switching voltage U_e	V	400
Rated switching current I_e	A	1000
Rated insulation voltage U_i	V	1000
Rated impulse withstand voltage $U_{imp.}$	kV	12
Rated short time withstand current I_{cw}	kA	15
Rated frequency	Hz	50-60
Mechanical durability	Number of cycles	600
Electrical durability		100
IP degree of protection	IP	30
Weight	kg	11
Fuse links size	-	TM3-1250 A

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NOVELTY



RWS 1250 pro




Cable terminal:
two pressed nuts M12

Table 18. VERSIONS

Version RWS 1250 pro		Article No.
Switch-disconnector 1250 A, equipped with NH3 solid-links 1250 A. For installation onto 185 mm busbar system. Switch-disconnector's width 100 mm		
three pole switching - all phases simultaneously		
RWS 1250-6-2M pro	cable terminals: screw terminals with two pressed nuts M12/pole , width 100 mm	63-811828-011
RWS 1250-6-3M pro	cable terminals: screw terminals with three pressed nuts M12/pole , width 200 mm	63-811828-021
RWS 1250-6-T pro	power supply connection at the back of the switch disconnector, feeding rail's length = 120 mm, feeding rails designed for fixing with M12 screws	63-811861-001
RWS 1250-6-T pro	power supply connection at the back of the switch disconnector, feeding rail's length = 170 mm, feeding rails designed for fixing with M12 screws	63-811861-002

Recommended tightening torque (M12 screw) for screws fixing fuse switch disconnector to busbar system – 56Nm, screws and nuts property class 8.8

Table 19. RWS 1250 pro TERMINAL CLAMPS

Description	RWS 1250 pro
Clamp	pressed nuts M12
Drawing of clamp	
Cross-section of conductors	Cable lugs, max 300 mm ²
Tightening torque	56 Nm



RWS 1250-6-3M pro



Cable terminal:
three pressed
nuts M12



RWS 1250-6-T pro



Version of RWS 1250 A pro
with cable terminals
at the back of the switch

FUSE SWITCH DISCONNECTOR ARS 1250 pro

Fuse switch disconnectors's width 200 mm

Table 20. TECHNICAL DATA

Parameters		ARS 1250 pro
Rated thermal current $I_{th}=I_n$	A	1250
Rated voltage U_n	V	400
Utilization category	-	AC-21B
Rated switching voltage U_e	V	400
Rated switching current I_e	A	1250
Rated short circuit making current	kA	100
Rated short circuit withstand current	kA	100
Rated insulation voltage U_i	V	1000
Rated impulse withstand voltage U_{imp}	kV	12
Rated frequency	Hz	50-60
Mechanical durability	Number of cycles	600
Electrical durability		100
IP degree of protection	IP	30
Fuse links size	-	3

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ARS 1250-1-M pro


ARS 1250-6-M pro

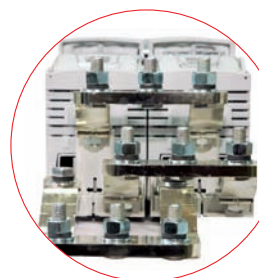
Table 21. VERSIONS

Version ARS 1250 pro		Weight	Article No.
for installation on to 185 mm busbar system, fuse disconnectors's width – 200 mm			
one pole switching - each phase independently			
ARS 1250-1-3M pro	mechanically and electrically coupled two ARS 3 pro fuse switch disconnectors, cable terminals: screw terminals with three pressed screw M12/pole	16,3 kg	63-811757-011
ARS 1250-1-4M pro	mechanically and electrically coupled two ARS 3 pro fuse switch disconnectors, cable terminals: screw terminals with four pressed screw M12/pole	17 kg	63-811757-021
three pole switching - all phases simultaneously			
ARS 1250-6-3M pro	mechanically and electrically coupled two ARS 3 pro fuse switch disconnectors, cable terminals: screw terminals with three pressed screw M12/pole	16,3 kg	63-811756-011
ARS 1250-6-4M pro	mechanically and electrically coupled two ARS 3 pro fuse switch disconnectors, cable terminals: screw terminals with four pressed screw M12/pole	17 kg	63-811756-021

Recommended tightening torque (M12 screw) for screws fixing fuse switch disconnectors to busbar system – 56Nm, screws and nuts property class 8.8

Table 22. ARS 1250-x-M pro TERMINAL CLAMPS

Description	ARS 1250-x-M pro
Clamp	three pressed nuts M12
Drawing of clamp	
Cross-section of conductors	Cable lugs, max 300 mm ²
Tightening torque	56 Nm



M3 type cable terminals:
screw terminals
with three pressed screw
M12/pole



M3 type cable terminals:
screw terminals
with four pressed screw
M12/pole



ELECTRONIC FUSE MONITORING MODULE

Fuse switch disconnecter can be equipped with electronic fuse monitoring module. Fuse link status (operational, operated, loss of voltage) is indicated by light-emitting diodes and status of relay contacts.

PRINCIPLE OF OPERATION

- L1, L2, L3 diodes are flashing - all three phases are supplied, all fuse links are operational. Relay contacts: [21..22] - closed; [13..14] - opened
- L1, L2, L3 diodes are blinking - all three phases are supplied, fuse links operated Relay contacts: [21..22] - opened; [13..14] - closed
- L1, L2, L3 diodes are off - two or more phases are not supplied or fuse links are removed. Relay contacts: [21..22] - opened; [13..14] - closed

NOMINAL PARAMETERS

- operating voltage AC - 400 ÷ 690 V, 40 ÷ 60 Hz;
- relay parameters 5A , 250 V~

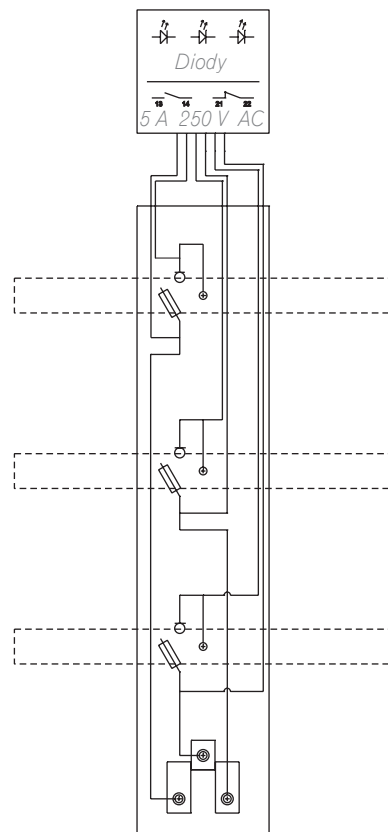
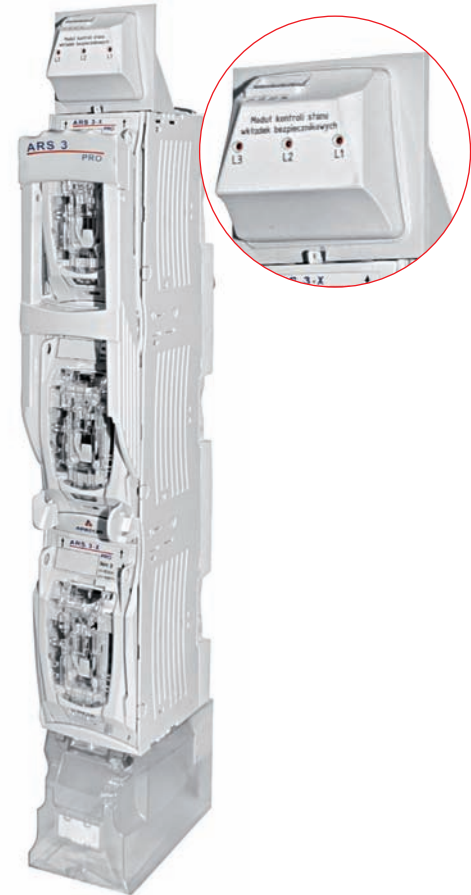


Table 23. VERSIONS WITH ELECTRONIC FUSE MONITORING MODULE

Version		Weight	Article No.
Fuse switch disconnectors ARS 2 pro - 400 A			
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 2-1-V-X pro	cable terminals: V-terminals with V-clamps 240 mm ²	5,9 kg	63-811830-001
ARS 2-1-M-X pro	cable terminals: screw terminals with pressed nuts M10	5,8 kg	63-811830-003
ARS 2-1-2V-X pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	6,5 kg	63-811830-005
ARS 2-1-V-X pro	cable terminals: V-terminals without V-clamps	5,6 kg	63-811830-007
ARS 2-1-2V-X pro	cable terminals: 2V-terminals without double V-clamps	6,0 kg	63-811830-009
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 2-6-V-X pro	cable terminals: V-terminals with V-clamps 240 mm ²	5,9 kg	63-811829-001
ARS 2-6-M-X pro	cable terminals: screw terminals with pressed nuts M10	5,8 kg	63-811829-003
ARS 2-6-2V-X pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	6,5 kg	63-811829-005
ARS 2-6-V-X pro	cable terminals: V-terminals without V-clamps	5,6 kg	63-811829-007
ARS 2-6-2V-X pro	cable terminals: 2V-terminals without double V-clamps	6,0 kg	63-811829-009
Fuse switch disconnectors ARS 3 pro – 630 A			
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 3-1-V-X pro	cable terminals: V-terminals with V-clamps 240 mm ²	6,7 kg	63-811830-002
ARS 3-1-M-X pro	cable terminals: screw terminals with pressed nuts M12	6,6 kg	63-811830-004
ARS 3-1-2V-X pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	7,3 kg	63-811830-006
ARS 3-1-V-X pro	cable terminals: V-terminals without V-clamps	6,4 kg	63-811830-008
ARS 3-1-2V-X pro	cable terminals: 2V-terminals without double V-clamps	6,8 kg	63-811830-010
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 3-6-V-X pro	cable terminals: V-terminals with V-clamps 240 mm ²	6,7 kg	63-811829-002
ARS 3-6-M-X pro	cable terminals: screw terminals with pressed nuts M12	6,6 kg	63-811829-004
ARS 3-6-2V-X pro	cable terminals: 2V-terminals with double V-clamps 240 mm ²	7,3 kg	63-811829-006
ARS 3-6-V-X pro	cable terminals: V-terminals without V-clamps	6,4 kg	63-811829-008
ARS 3-6-2V-X pro	cable terminals: 2V-terminals without double V-clamps	6,8 kg	63-811829-010



FUSE SWITCH DISCONNECTOR WITH LATERAL BUSBAR TERMINAL

(separation, coupling of busbar systems)

Table 24. TECHNICAL DATA

Parameters		ARS 2 pro	ARS 3 pro
Rated thermal current $I_{th}=I_n$	A	400	630
Rated voltage U_n	V	690	690
Utilization category	-	AC-22B	AC-22B
Rated switching voltage U_e	V	690	500
Rated switching current I_e	A	400	630
Rated short circuit making current	kA	100	100
Rated short circuit withstand current	kA	100	100
Rated insulation voltage U_i	V	1000	1000
Rated impulse withstand voltage U_{imp}	kV	12	12
Rated frequency	Hz	50-60	50-60
Mechanical durability	Number of cycles	1000	1000
Electrical durability		200	200
IP degree of protection	IP	30	30
Fuse links size	-	2	3

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Table 25. VERSIONS WITH LATERAL BUSBAR TERMINAL

Lateral busbar terminals

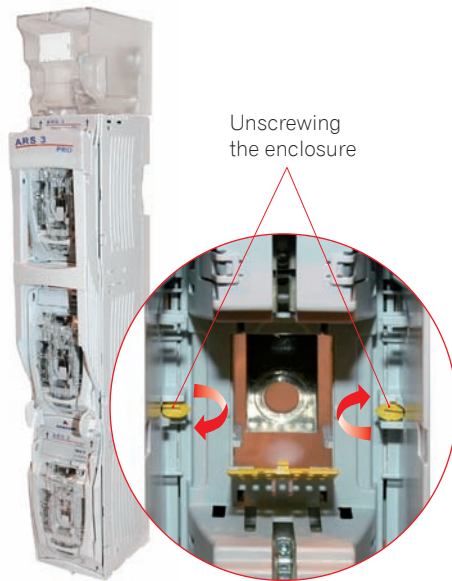
Version		Weight	Article No.
Fuse switch disconnectors ARS 2 pro - 400A			
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 2-1 NL pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - left side	5,1 kg	63-811837-011
ARS 2-1 NR pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - right side	5,1 kg	63-811837-031
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 2-6 NL pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - left side	5,1 kg	63-811838-011
ARS 2-6 NR pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - right side	5,1 kg	63-811838-031
Fuse switch disconnectors ARS 3 pro – 630 A			
for installation on to 185 mm busbar system, one pole switching - each phase independently			
ARS 3-1 NL pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - left side	5,9 kg	63-811837-021
ARS 3-1 NR pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - right side	5,9 kg	63-811837-041
for installation on to 185 mm busbar system, three pole switching - all phases simultaneously			
ARS 3-6 NL pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - left side	5,9 kg	63-811838-021
ARS 3-6 NR pro	cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - right side	5,9 kg	63-811838-041
three pole switching - all phases simultaneously			
RWS 1250 NL pro	Switch-disconnector 1250 A pro, equipped with solid-links 1250 A cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - left side	7 kg	63-811862-005
RWS 1250 NR pro	Switch-disconnector 1250 A pro, equipped with solid-links 1250 A cable terminals: screw terminals with pressed nuts M12, lateral busbar terminal - right side	7 kg	63-811862-001

Table 26. ARS 2, 3 pro WITH LATERAL BUSBAR TERMINALS TERMINAL CLAMPS

Description	ARS 2-x-NL (400 A)	ARS 2-x-NR (400 A)	ARS 3-x-NL (630 A)	ARS 3-x-NR (630 A)
Clamp	M12 screw	M12 screw	M12 screw	M12 screw
Drawing of clamp				
Lateral busbar terminal	Left side	Right side	Left side	Right side
Tightening torque	56 Nm	56 Nm	56 Nm	56 Nm



Fuse link replacement



Installation in reversed position



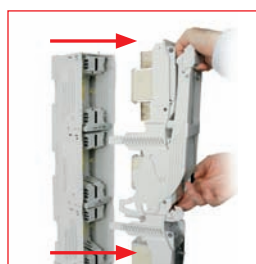
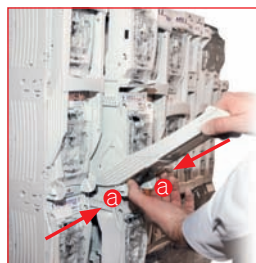
Ammeter



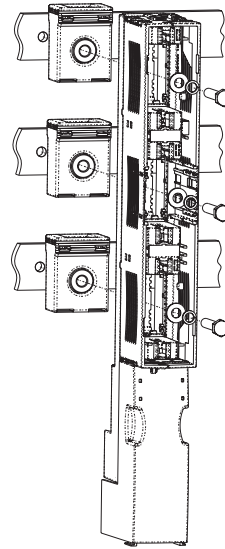
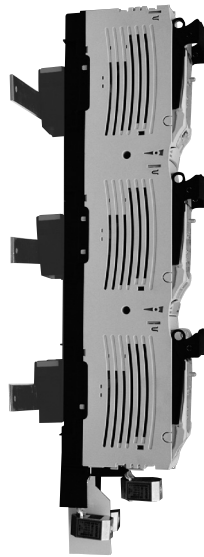
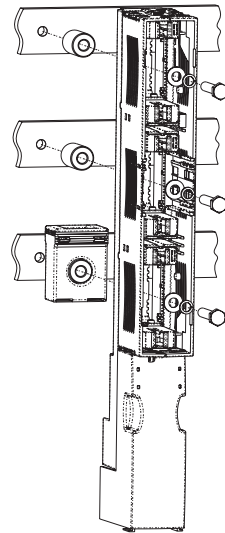
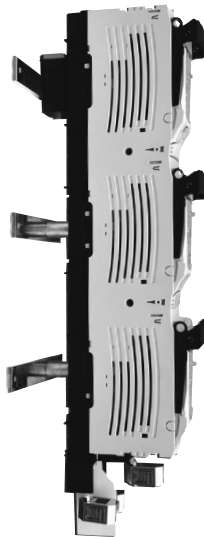
Fused tee off adapter/
piggy back adapter



Earthing of fuse
switch disconnecter



Voltage test

**THREE PHASE CURRENT MEASUREMENT WITH FUSE SWITCH DISCONNECTOR ARS****ONE PHASE CURRENT MEASUREMENT WITH FUSE SWITCH DISCONNECTOR ARS**

Fuse switch disconnectors ARS 400 A, ARS 2 pro, ARS 3 pro

CURRENT TRANSFORMER ASR22.3

ratios:

50 A/5 A 100 A/5 A 150 A/5 A 200 A/5 A
250 A/5 A 300 A/5 A 400 A/5 A 500 A/5 A 600 A/5 A

dimensions:

a = 61 mm, b = 35 mm, c = 78,5 mm

DISTANCE SLEEVE

Length 36 mm

Ø Inner diameter = 12,5 mm,

Ø outer diameter = 22,5 mm

Accuracy class = 1

Fuse switch disconnectors ARS 00/160 mm, ARS 00/160 mm pro, ARS 00, ARS 00 pro

CURRENT TRANSFORMER ASR21.3

ratios:

100 A/5 A

150 A/5 A

dimensions:

a = 48,5 mm, b = 35 mm, c = 65 mm

DISTANCE SLEEVE

Length 36 mm

Ø Inner diameter = 12,5 mm

Ø outer diameter = 22,5 mm

Accuracy class = 1



Distance sleeve



Current transformer

NOTES