









# DMX<sup>3</sup>

## technical characteristics

DMX <sup>3</sup> according to IEC 60947-2	AIR CIRCUIT BREAKERS							TRIP FREE SWITCHES				
												
	0286 56 + 0288 02			0286 74 + 0288 02			0289 51 + 0288 02			0286 96		
Devices	DMX <sup>3</sup> 2500			DMX <sup>3</sup> 4000			DMX <sup>3</sup> 6300			DMX <sup>3</sup> -I		
	50 kA	65 kA	100 kA	50 kA	65 kA	100 kA	100 kA			2500	4000	6300
Frames	1	1	2	2	2	2	3			1	2	3
No. of poles	3P - 4P			3P - 4P			3P - 4P			3P - 4P	3P - 4P	3P - 4P
Version	Fixed Drawout			Fixed Drawout			Fixed Drawout			Fixed Drawout		
<b>Operating characteristics</b>												
In rated current at 40 °C (A)	630-800-1000-1250-1600-2500			3200-4000			5000-6300			1250-1600-2000-2500	3200-4000	6300
Rated insulation voltage	1000			1000			1000			1000	1000	1000
Rated impulse withstand voltage U <sub>imp</sub> (kV)	12			12			12			12	12	12
Rated operational voltage (50/60 Hz) U <sub>e</sub> (V)	690			690			690			690	690	690
Neutral protection (% I <sub>r</sub> )	OFF-50-100			OFF-50-100			OFF-50-100			-	-	-
Utilization category	B			B			B			-	-	-
Isolation behavior	Yes			Yes			Yes			Yes	Yes	Yes
<b>Ultimate breaking capacity I<sub>cu</sub> (kA)</b>												
230 VA	50	65	100	50	65	100	100			-	-	-
415 VA	50	65	100	50	65	100	100			-	-	-
500 VA	50	65	100	50	65	100	100			-	-	-
600 VA	50	60	75	50	65	75	75			-	-	-
690 VA	50	55	65	50	65	65	65			-	-	-
Service breaking capacity I <sub>cs</sub> (% I <sub>cu</sub> )	100			100			100			-	-	-
<b>Short circuit making capacity I<sub>cm</sub> (kA)</b>												
230 VA	105	143	220	105	143	220	220			143	220	220
415 VA	105	143	220	105	143	220	220			143	220	220
500 VA	105	143	220	105	143	220	220			143	220	220
600 VA	105	132	165	105	143	165	165			132	165	165
690 VA	105	121	143	105	143	143	143			121	143	143
<b>Short time withstand current I<sub>cw</sub> (kA) for t = 1 s</b>												
230 VA	50	65	85	50	65	85	100			65	85	100
415 VA	50	65	85	50	65	85	100			65	85	100
500 VA	50	65	85	50	65	85	100			65	85	100
600 VA	50	60	75	50	65	75	75			60	75	75
690 VA	50	55	65	50	65	65	65			55	65	65
<b>Response time</b>												
Opening time	15 ms			15 ms			15 ms			-	-	-
Closing time	30 ms			30 ms			30 ms			-	-	-
<b>Endurance (cycles)</b>												
Mechanical	10000			10000			5000			10000	10000	5000
Electrical	10000			10000			2500			5000	5000	2500
<b>Temperature</b>												
Operating	-5 °C to +70 °C			-5 °C to +70 °C			-5 °C to +70 °C			-5 °C to +70 °C	-5 °C to +70 °C	-5 °C to +70 °C
Storage	-25 °C to +85 °C			-25 °C to +85 °C			-25 °C to +85 °C			-25 °C to +85 °C	-25 °C to +85 °C	-25 °C to +85 °C

\*Sensing time shall be additional.

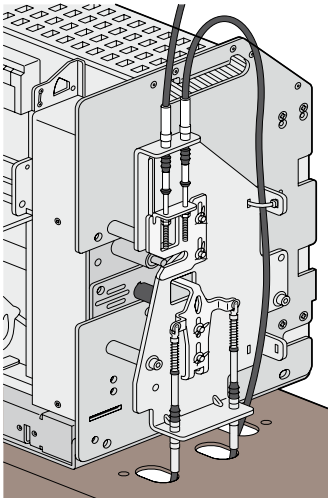
	PROTECTION UNITS			
				
	0288 03	0288 04	0288 01	0288 02
Microprocessor based protection unit	Touch screen LCD		Monochrome LCD	
	LSI	LSIg	LSI	LSIg
<b>Long time delayed overload protection</b>				
$I_r$ adjustable from 0.4 to 1.0 x $I_n$ in steps of 0.02 <sup>(3)</sup>	•	•	•	•
$t_r$ adjustable 5-10-20-30 s	•	•	•	•
<b>Short time delayed short circuit protection</b>				
$I_m$ adjustable from 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10 x $I_r$	•	•	•	•
$t_m$ adjustable : 0-0,1-0,2-0,3-1 <sup>(1)</sup> s	•	•	•	•
<b>Instantaneous protection</b>				
$I_i$ adjustable : OFF- 2, 3, 4, 6, 8, 10, 12, 15 x $I_n$	•	•	•	•
<b>Earthfault protection</b>				
$I_g$ adjustable : OFF- 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 1 x $I_n$	•	•	•	•
$t_g$ adjustable : 0.1, 0.2, 0.5, 1 s	•	•	•	•
<b>Display</b>				
Touchscreen LCD	•	•	•	•
monochrome LCD	•	•	•	•
<b>Measures and displays (Instantaneous, maximum and average, adjustable delay)</b>				
Current	•	•	•	•
Voltage Ph/N and Ph/Ph	•	•	•	•
Power (P, Q, A) total and per phase	•	•	•	•
Frequency	•	•	•	•
Total power factor and per phase	•	•	•	•
Energy (active and reactive)	•	•	•	•
Total harmonic distortion	•	•	•	•
Position ON/OFF/Default	•	•	•	•
Date, time and cause of last trip	•	•	•	•
Protection required	•	•	•	•
<b>Memory</b>				
Trip counter	•	•	•	•
Last trip	•	•	•	•
Date, time and cause of last trip	•	•	•	•
Date of last 20 alarms	•	•	•	•
<b>External link</b>				
USB port for diagnostic software	•	•	•	•
Terminal block for auxilliary	•	•	•	•
Supervision (port RS 485 / Modbus) <sup>(3)</sup>	option	option	option	option
<b>Signalling and Alarms</b>				
Overheating > 75 °C	•	•	•	•
Logical Selectivity	•	•	•	•
Non priority load management <sup>(3)</sup>	•	•	•	•
Reverse power 0.1 to 20s - 5 to 100 % $I_r$ <sup>(3)</sup>	•	•	•	•
Unbalance current 1 to 3600s - 100 to 600 V <sup>(3)</sup>	•	•	•	•
Voltage Ph/N max : 0.1 to 20s - 60 to 400 V <sup>(3)</sup>	•	•	•	•
Voltage Ph/N min : 0.1 to 20s - 10 to 400 V <sup>(3)</sup>	•	•	•	•
Unbalance voltage Ph/N : 0.1 to 20s - Instant <sup>(3)</sup>	•	•	•	•
Reversing phase rotations	•	•	•	•
Max & Min frequency: 45 to 500 Hz - 0.1s to 20s <sup>(3)</sup>	•	•	•	•

(1) Only for touchscreen protection unit  
 (2) For DMX<sup>3</sup> 3P, 4 wire system add Cat.No 0288 11  
 (3) For touchscreens :  $I_r$  adjustable from 0.1 to 10 x  $I_n$  in steps of 0.01

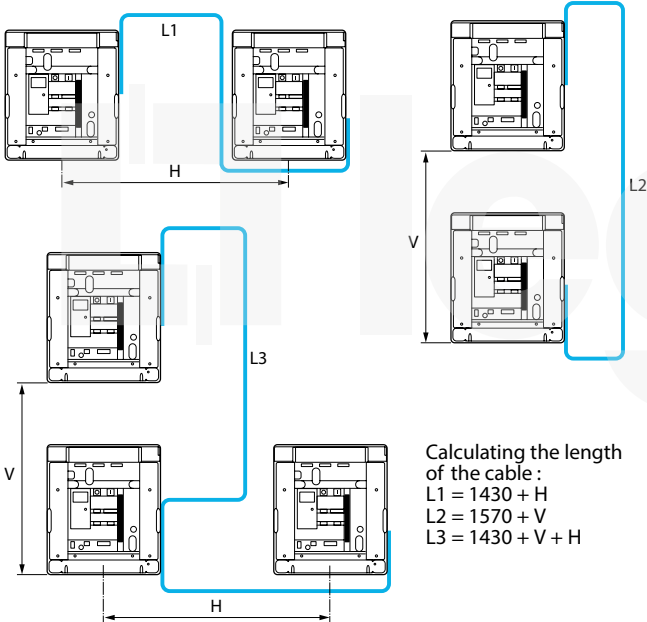
# DMX<sup>3</sup>

automation control units for supply invertors

## Mounting the interlocking mechanism



## Choice of cable interlock



## Cable length selection table

Length (mm)	Type	Cat.Nos
2600	1	0289 20
3000	2	0289 21
3600	3	0289 22
4000	3	0289 23
4600	5	0289 24
5600	6	0289 25

## Examples for 3 air circuit breakers

Distance between air circuit breakers (mm)	Horizontal				
	725 mm	1000 mm	1450 mm	2000 mm	
Vertical	800 mm	Type 2	Type 3	Type 4	Type 5
	1000 mm	Type 3	Type 3	Type 4	Type 5
	1600 mm	Type 4	Type 5	Type 5	Type 6
	2000 mm	Type 5	Type 5	Type 6	Type 6

## Technical characteristics

Power supply : 187 to 264 V A  
9 to 65 V =

Frequency : 45 to 65 Hz

Un : 80 to 690 V A

Control relay (1 and 4) : 1 NO - 12 A - 250 V A  
1 NO - 5 A - 250 V A  
1 NO/NC - 5 A - 250 V A

Cable cross section : 0.2 to 2.5 mm<sup>2</sup>

Dimensions (width x height x depth) : 144 x 144 x 90 mm

Protection : IP 20 at the rear

IP 41 at the front

IP 54 at the front with protective screen

Operating temperature: -20 °C to +60 °C

	Operating ranges
Main/Secondary minimum voltage range	70-98 % Un
Main/Secondary voltage absence range	60-85 % Un
Main/Secondary minimum voltage delay	0.1-900 s
Main/Secondary voltage absence delay	0.1-30 s
Generator operating delay	0-900 s
Main/Secondary switching delay	0.1-90 s
Main line presence delay	1-3600 s
Secondary to main switching delay	0.1-90 s
Generator set stopping delay	1-3600 s

## Functions

### Standard unit Cat.No 0261 93 / 4226 80 / 4226 82

Used to adjust and manage the source inversion operating conditions (DMX<sup>3</sup>) :

- Remote control (Opening/Closing) of ACBs
- Microprocessor output from unit (Positive Safety)
- Programmable I/O

- Voltage reading : 3 Phase  
phase-neutral  
phase-phase

- Control (on/off) of generator set
- Indication of the state of the ACBs (open/closed/tripped)
- Source inversion blocked in the event of:

- Tripping of 1 or 2 devices
- If a draw-out ACB is not inserted in its base, as the open/close command of the unit is inoperative

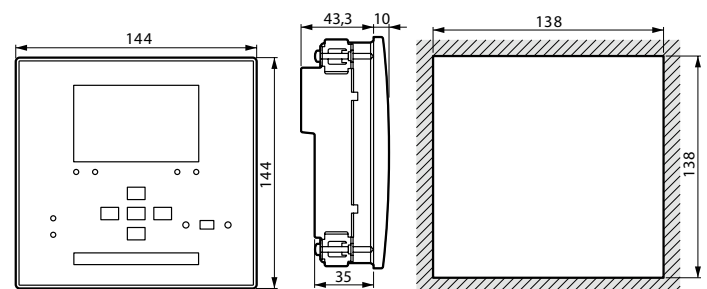
The use of frontal side dongles (WiFi or USB), to communicate with device without any panel maintenance working (plug & play)

### Communicating unit Cat.No 0261 94 / 4226 82 + 4226 89

All the standard functions plus:

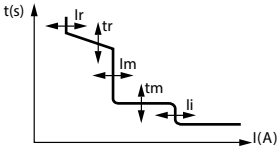
- Maximum voltage reading
- Reading of phase rotation direction
- Frequency reading
- Communication : data transmission via the RS 485 port (Modbus protocol)

## Dimension and panel board faceplate cut-out



**Settings of the microprocessor protection units**
**MP4 LSI**

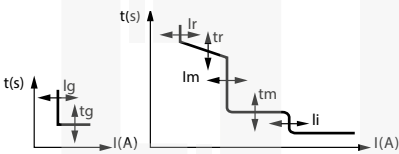
Ir, tr, Im, tm, li adjustment on front panel



- **Long time delay protection against overloads**  
Ir from 0.4 to 1 x In (6 + 6 steps) on two selectors (0.4 ÷ 0.9, by steps of 0.1 and 0.0 ÷ 0.1, by steps of 0.02)
- **Long delay protection operation time**  
tr - at 6 x Ir (4 + 4 steps) tr = 5-10-20-30 s (MEM ON) 30-20-10-5 s (MEM OFF)
- **Short time delay protection against short circuits**  
Im from 1.5 to 10 x Ir (9 steps) Im = 1.5-2-2.5-3-4-5-6-8-10 x Ir
- **Short time delay protection operation time**  
tm from 0 to 0.3 s (4 + 4 steps) tm = 0-0.1-0.2-0.3 s (t = cost), 0.3-0.2-0.1-0.01 s (I<sup>2</sup>t = constant)
- **Instantaneous protection against very high short circuits**  
li from 2 to 15 x In or Icw (9 steps) li = off-2-3-4-6-8-10-12-15 x In or Icw
- **Neutral protection:** IN = I-II-III-IV x Ir (0-50-100-100 %)

**MP4 LSIg**

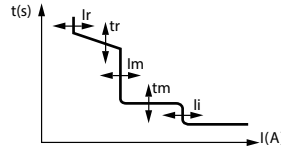
Ir, tr, li, Ig, tg, Im, tm, adjustment on front panel



- **Long time delay protection against overloads**  
Ir from 0.4 to 1 x In (6 + 6 steps) on two selectors (0.4 ÷ 0.9, by steps of 0.1 and 0.0 ÷ 0.1, by steps of 0.02)
- **Long delay protection operation time**  
tr - at 6 x Ir (4 + 4 steps) tr = 5-10-20-30 s (MEM ON) 30-20-10-5 s (MEM OFF)
- **Short time delay protection against short circuits**  
Im from 1.5 to 10 x Ir (9 steps) Im = 1.5-2-2.5-3-4-5-6-8-10 x Ir
- **Short time delay protection operation time**  
tm from 0 to 0.3 s (4 + 4 steps) tm = 0-0.1-0.2-0.3 s (t=constant), 0.3-0.2-0.1-0.01 s (I<sup>2</sup>t=constant)
- **Instantaneous protection against very high short circuits**  
li from 2 to 15 x In or Icw (9 steps) li = OFF-2-3-4-6-8-10-12-15 x In or Icw
- **Earth fault current**  
Ig from 0.2 to 1 x In (9 steps) Ig = 0.2-0.3-0.4-0.5-0.6-0.7-0.8-1 x In, OFF
- **Time delay on earth fault tripping**  
tg from 0.1 to 1 x In (4 steps) Tg = 0,1-0,2-0,5-1 s (both t = constant and I<sup>2</sup>t = constant)
- **Neutral protection:** IN = I-II-III-IV x Ir (0-50-100-100 %)

**MP6 LSI**

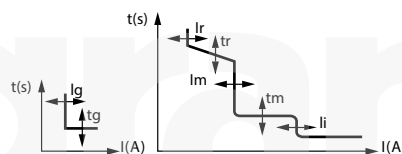
Ir, tr, Im, tm, li adjustment on front panel



- **Long time delay protection against overloads**  
Ir from 0.4 to 1 x In (7 steps) Ir = 0.4-0.5-0.6-0.7-0.8-0.9-1 x In
- **Long delay protection operation time**  
tr - at 6 x Ir (4 steps) tr = 5-10-20-30 s (both MEM ON and MEM OFF)
- **Short time delay protection against short circuits**  
Im from 1.5 to 10 x Ir (9 steps) Im = 1.5-2-2.5-3-4-5-6-8-10 x Ir
- **Short time delay protection operation time**  
tm from 0.03 to 1 s (11 steps) tm = 0.03-0.1-0.2-0.3-0.4-0.5-0.6-0.7-0.8-0.9-1 s (both t = constant and I<sup>2</sup>t = constant)
- **Instantaneous protection against very high short circuits**  
li from 2 to 15 x In or Icw (9 steps) li = 2-3-4-6-8-10-12-15 x In or Icw
- **Neutral protection:** IN = I-II-III-IV x Ir (0-50-100-100 %)

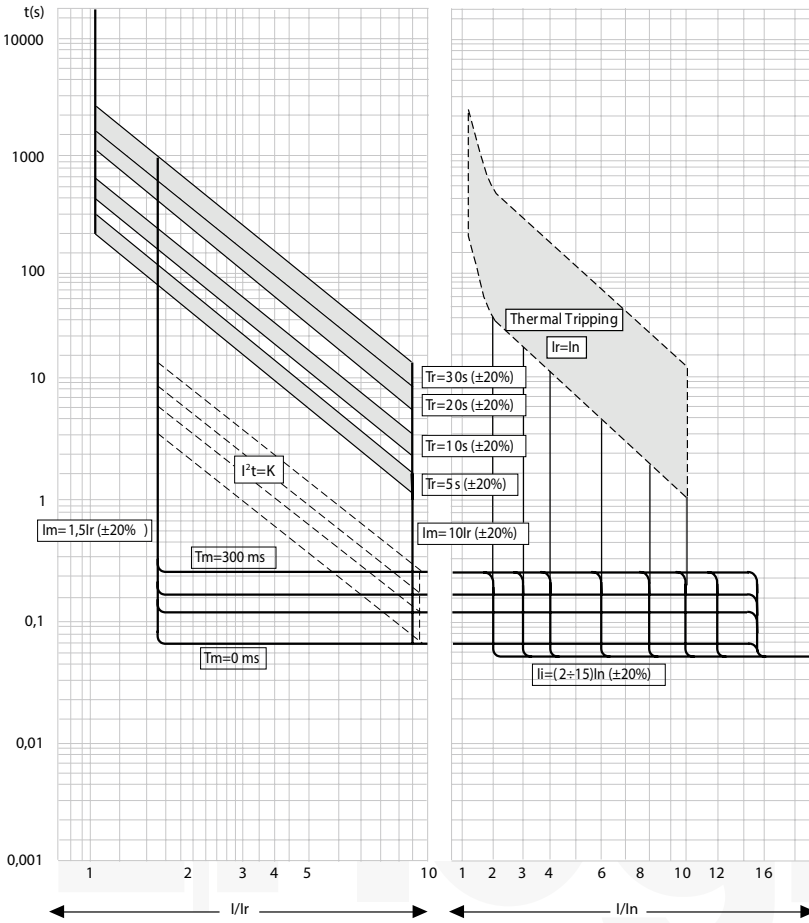
**MP6 LSIg**

Ir, tr, li, Ig, tg, Im, tm, adjustment on front panel



- **Long time delay protection against overloads**  
Ir from 0.4 to 1 x In (7 steps) Ir = 0.4-0.5-0.6-0.7-0.8-0.9-1 x In
- **Long delay protection operation time**  
tr - at 6 x Ir (4 steps) tr = 5-10-20-30 s (both MEM ON and MEM OFF)
- **Short time delay protection against short circuits**  
Im from 1.5 to 10 x Ir (9 steps) Im = 1.5-2-2.5-3-4-5-6-8-10 x Ir
- **Short time delay protection operation time**  
tm from 0.03 to 1 s (11 steps) tm = 0.03-0.1-0.2-0.3-0.4-0.5-0.6-0.7-0.8-0.9-1 s (both t = constant and I<sup>2</sup>t = constant)
- **Instantaneous protection against very high short circuits**  
li from 2 to 15 x In or Icw (9 steps) li = 2-3-4-6-8-10-12-15 x In or Icw
- **Earth fault current**  
Ig from 0.2 to 1 x In (9 steps) Ig = 0.2-0.3-0.4-0.5-0.6-0.7-0.8-1 x In, OFF
- **Time delay on earth fault tripping**  
tg from 0.1 to 1 x In (4 steps) Tg = 0,1-0,2-0,5-1 s (both t = constant and I<sup>2</sup>t = constant)
- **Neutral protection:** IN = I-II-III-IV x Ir (0-50-100-100 %)

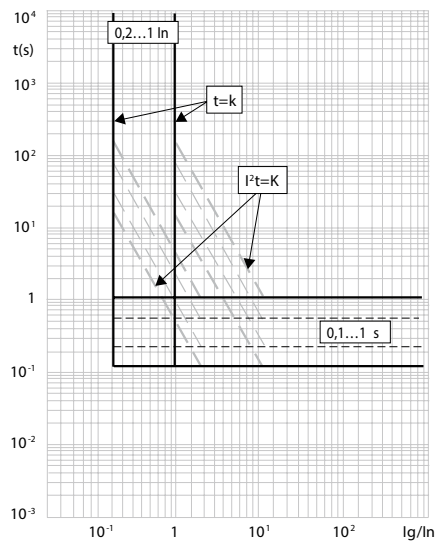
**Selective time-current tripping characteristic for MP4 protection units**



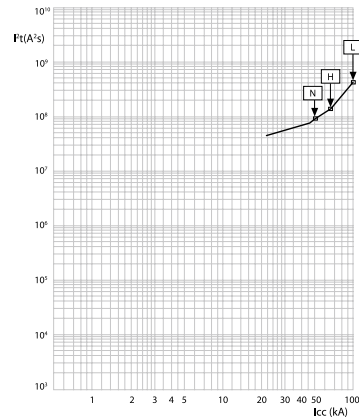
If short-circuit current is higher than  $I_{cw}$  value or  $I_i$  is setted at  $I_{cw}$  position, tripping time is equal to 30ms

- $I_r$  = long time setting current
- $T_r$  = long time delay
- $I_m$  = short time setting current
- $T_m$  = short time delay
- $I_f$  = instantaneous intervention current

**Ground fault tripping curve for MP4 LSIG protection unit**



**Let through energy characteristics**



$I_{cc}$  (kA) = estimated short circuit symmetrical current (RMS value)  
 $I^2t$  (A<sup>2</sup>s) = pass-through specific energy

**Technical characteristics**
**DMX<sup>3</sup> 2500**

DMX <sup>3</sup> according to IEC 60947-2	DMX <sup>3</sup> 2500																		
	800			1000			1250			1600			2000			2500			
	N	H	L	N	H	L	N	H	L	N	H	L	N	H	L	N	H	L	
Number of poles	3P - 4P			3P - 4P			3P - 4P			3P - 4P			3P - 4P			3P - 4P			
Rating In (A)	800			1000			1250			1600			2000			2500			
Rated insulation voltage Ui (V)	1000			1000			1000			1000			1000			1000			
Rated impulse withstand voltage Uimp (kV)	12			12			12			12			12			12			
Rated operational voltage (50/60Hz) Ue (V)	690			690			690			690			690			690			
Frame	1		2	1		2	1		2	1		2	1		2	1		2	
Ultimate breaking capacity Icu (kA)	230 VA	50	65	100	50	65	100	50	65	100	50	65	100	50	65	100	50	65	100
	415 VA	50	65	100	50	65	100	50	65	100	50	65	100	50	65	100	50	65	100
	500 VA	50	65	100	50	65	100	50	65	100	50	65	100	50	65	100	50	65	100
	600 VA	50	60	75	50	60	75	50	60	75	50	60	75	50	60	75	50	60	75
	690 VA	50	55	65	50	55	65	50	55	65	50	55	65	50	55	65	50	55	65
Service breaking capacity Ics (% Icu)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Short-circuit making capacity Icm (kA)	230 VA	105	143	220	105	143	220	105	143	220	105	143	220	105	143	220	105	143	220
	415 VA	105	143	220	105	143	220	105	143	220	105	143	220	105	143	220	105	143	220
	500 VA	105	143	220	105	143	220	105	143	220	105	143	220	105	143	220	105	143	220
	600 VA	105	132	165	105	132	165	105	132	165	105	132	165	105	132	165	105	132	165
	690 VA	105	121	143	105	121	143	105	121	143	105	121	143	105	121	143	105	121	143
Short time withstand current Icw (kA) for t = 1s	230 VA	50	65	85	50	65	85	50	65	85	50	65	85	50	65	85	50	65	85
	415 VA	50	65	85	50	65	85	50	65	85	50	65	85	50	65	85	50	65	85
	500 VA	50	65	85	50	65	85	50	65	85	50	65	85	50	65	85	50	65	85
	600 VA	50	60	75	50	60	75	50	60	75	50	60	75	50	60	75	50	60	75
	690 VA	50	55	65	50	55	65	50	55	65	50	55	65	50	55	65	50	55	65
Category of use	B			B			B			B			B			B			
Isolation behavior	Yes			Yes			Yes			Yes			Yes			Yes			
Endurance (cycles)	mechanical	10000			10000			10000			10000			10000			10000		
	electrical	5000			5000			5000			5000			5000			5000		

**DMX<sup>3</sup> 4000**

DMX <sup>3</sup> according to IEC 60947-2	DMX <sup>3</sup> 4000						
	3200			4000			
	N	H	L	N	H	L	
Number of poles	3P - 4P			3P - 4P			
Rating In (A)	3200			4000			
Rated insulation voltage Ui (V)	1000			1000			
Rated impulse withstand voltage Uimp (kV)	12			12			
Rated operational voltage (50/60Hz) Ue (V)	690			690			
Frame	2			2			
Ultimate breaking capacity Icu (kA)	230 VA	50	65	100	50	65	100
	415 VA	50	65	100	50	65	100
	500 VA	50	65	100	50	65	100
	600 VA	50	60	75	50	60	75
	690 VA	50	55	65	50	55	65
Service breaking capacity Ics (% Icu)	100	100	100	100	100	100	
Short-circuit making capacity Icm (kA)	230 VA	105	143	220	105	143	220
	415 VA	105	143	220	105	143	220
	500 VA	105	143	220	105	143	220
	600 VA	105	132	165	105	132	165
	690 VA	105	121	143	105	121	143
Short time withstand current Icw (kA) for t = 1s	230 VA	50	65	85	50	65	85
	415 VA	50	65	85	50	65	85
	500 VA	50	65	85	50	65	85
	600 VA	50	60	75	50	60	75
	690 VA	50	55	65	50	55	65
Category of use	B			B			
Isolation behavior	Yes			Yes			
Endurance (cycles)	mechanical	10000			10000		
	electrical	5000			5000		

**DMX<sup>3</sup> 6300**

DMX <sup>3</sup> according to IEC 60947-2	DMX <sup>3</sup> 6300		
	5000	6300	
	L	L	
Number of poles	3P - 4P	3P - 4P	
Rating In (A)	5000	5000	
Rated insulation voltage Ui (V)	1000	1000	
Rated impulse withstand voltage Uimp (kV)	12	12	
Rated operational voltage (50/60Hz) Ue (V)	690	690	
Frame	3	3	
Ultimate breaking capacity Icu (kA)	230 VA	100	100
	415 VA	100	100
	500 VA	100	100
	600 VA	75	75
	690 VA	65	65
Service breaking capacity Ics (% Icu)	100	100	
Short-circuit making capacity Icm (kA)	230 VA	220	220
	415 VA	220	220
	500 VA	220	220
	600 VA	165	165
	690 VA	143	143
Short time withstand current Icw (kA) for t = 1s	230 VA	100	100
	415 VA	100	100
	500 VA	100	100
	600 VA	75	75
	690 VA	65	65
Category of use	B	B	
Isolation behavior	Yes	Yes	
Endurance (cycles)	mechanical	5000	5000
	electrical	2500	2500

**Technical characteristics**

Trip free switch DMX <sup>3</sup> -I	2500	4000	6300	
Frame	1	2	3	
Rating In à 40 °C (A)	1250 1600 2000 2500	3200 4000	6300	
Rated insulation voltage Ui (V)	1000	1000	1000	
Rated impulse withstand voltage Uimp (kV)	12	12	12	
Rated operational voltage (50/60Hz) Ue (V)	690	690	690	
Isolation behaviour	Yes	Yes	Yes	
Short-circuit making capacity Icm (kA)	230 VA	143	220	
	415 VA	143	220	
	500 VA	143	220	
	600 VA	132	165	
	690 VA	121	143	
Short time withstand current Icw (kA) pour t = 1 s	230 VA	65	85	
	415 VA	65	85	
	500 VA	65	85	
	600 VA	60	75	
	690 VA	55	65	
Endurance (cycles)	mechanical	10000	10000	5000
	electrical	5000	5000	2500
Temperature	operation	-5 °C to +70 °C	-5 °C to +70 °C	-5 °C to +70 °C
	storage	-25 °C to +85 °C	-25 °C to +85 °C	-25 °C to +85 °C

**Temperature derating**
**Fixed version**

	Temperature									
	40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>
DMX <sup>3</sup> -I 2500	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1880	0.94
	2500	1	2450	0.98	2350	0.94	2250	0.9	2150	0.86
DMX <sup>3</sup> -I 4000	3200	1	3200	1	3200	1	3136	0.98	3008	0.94
	4000	1	3920	0.98	3680	0.92	3440	0.86	3120	0.78
DMX <sup>3</sup> -I 6300	6300	1	6300	1	6048	0.96	5796	0.92	5544	0.88

**Draw-out version**

	Temperature									
	40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>
DMX <sup>3</sup> -I 2500	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1875	0.94
	2500	1	2400	0.96	2250	0.9	2100	0.84	1950	0.78
DMX <sup>3</sup> -I 4000	3200	1	3200	1	3200	1	3072	0.96	2880	0.9
	4000	1	3760	0.94	3440	0.86	3200	0.8	2960	0.74
DMX <sup>3</sup> -I 6300	6300	1	6174	0.98	5985	0.95	5796	0.92	5292	0.84

**Temperature derating**
**Fixed version**

Temperature	40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>
DMX <sup>3</sup> 2500	800	1	800	1	800	1	800	1	800	1
	1000	1	1000	1	1000	1	1000	1	1000	1
	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1880	0.94
DMX <sup>3</sup> 4000	3200	1	3200	1	3200	1	3136	0.98	3008	0.94
	4000	1	3920	0.98	3680	0.92	3440	0.86	3120	0.78
DMX <sup>3</sup> 6300	5000	1	5000	1	5000	1	5000	1	5000	1
	6300	1	6300	1	6048	0.96	5796	0.92	5544	0.88

**Draw-out Version**

Temperature	40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> / I <sub>n</sub>
DMX <sup>3</sup> 2500	800	1	800	1	800	1	800	1	800	1
	1000	1	1000	1	1000	1	1000	1	1000	1
	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1875	0.94
DMX <sup>3</sup> 4000	3200	1	3200	1	3200	1	3072	0.96	2880	0.9
	4000	1	3760	0.94	3440	0.86	3200	0.8	2960	0.74
DMX <sup>3</sup> 6300	5000	1	5000	1	5000	1	5000	1	5000	1
	6300	1	6174	0.98	5985	0.95	5796	0.92	5292	0.84

**Derating at different altitudes**

Air circuit breaker	DMX <sup>3</sup> 2500, DMX <sup>3</sup> 4000 and DMX <sup>3</sup> 6300			
Altitude H (m)	< 2000	3000	4000	5000
Rated current (at 40 °C) I <sub>n</sub> (A)	I <sub>n</sub>	0.98 x I <sub>n</sub>	0.94 x I <sub>n</sub>	0.90 x I <sub>n</sub>
Rated voltage U <sub>e</sub> (V)	690	600	500	440
Rated insulation voltage U <sub>i</sub> (V)	1000	900	750	600

**Connection bars minimum recommended dimension per pole (fix) for copper conductors**

I <sub>n</sub> (A)	Vertical bars (mm)	Horizontal bars (mm)
630	50 x 10	60 x 10
800	60 x 10	60 x 10
1000	80 x 10	80 x 10
1250	80 x 10	2 x 60 x 10
1600	2 x 60 x 10	2 x 80 x 10
2000	2 x 80 x 10	3 x 80 x 10
2500	3 x 80 x 10	3 x 80 x 10
3200	3 x 100 x 10	3 x 100 x 10
4000	4 x 100 x 10	5 x 100 x 10
5000	6 x 100 x 10	6 x 100 x 10
6300	7 x 100 x 10	7 x 100 x 10

Note: The tables presenting the minimum recommended dimensions of connection plates and bars per pole should be used solely as a general guideline for selecting products. Due to extensive variety of switchgear constructions shapes and conditions that can affect the behavior of the apparatus, the solution used must always be verified