## DATASHEET - IZMX40N4-P25W-1



Circuit-breaker, 4 pole, 2500A, 85 kA, P measurement, IEC, Withdrawable

E

Powering Business Worldwide"



IZMX40N4-P25W-1 183792

EL-Nummer (Norway)

### 0004398282

# **Delivery program**

Product range Image Image Image Image   Current Range Image Image Image Image   Protective function Image Image Image   Installation type Image Image Image   Construction size Image Image Image   Release system Image Image Image   Standard/Approval Image Image Image   Number of poles Image Image Image   Degree of Protection Image Image Image   Release system Image Image Image   Standard/Approval Image Image Image   Number of poles Image Image Image   Degree of Protection Image Image Image   Image Image Image Image   Reted current = rated uninterrupted current Image Image Image   Image Image Image Image Image   Im	Product range			Air circuit-breakers/switch-disconnectors
Protective function Installation type P measurement   Installation type Kithdrawable   Construction size ZAMX-DTP-PTM external voltage measuring module required   Release system Electronic release   Standard/Approval Electronic release   Number of poles Electronic release   Degree of Protection Image: Standard	Product range			Open circuit-breakers
Installation type     Installatis type     Installatis type	Current Range			Up to 4000 A
Initial system     Initial	Protective function			P measurement
Image: Construction size   Image: Construction size   Image: Construction size     Release system   Image: Construction size   Image: Construction size     Standard/Approval   Image: Construction size   Image: Construction size     Number of poles   Image: Construction size   Image: Construction size     Degree of Protection   Image: Construction size   Image: Construction size     Rated current = rated uninterrupted current   Image: Image: Construction size   Image: Image: Construction size     up to 440 V 50/60 Hz   Image: Image: Image: Construction size   Image: Image: Image: Image: Construction size     Vorload release, min.   Image: Image	Installation type			Withdrawable
Construction sizeFighZMX40Release systemElectronic releaseStandard/ApprovalFighFighNumber of polesFigh4 poleDegree of ProtectionFighVirtual ble for zone selectivity suitable for zone selectivity suitable for zone selectivity with integrated system monitor with integrated system monitor monitor monitor monitorRated current = rated uninterrupted currentIn = IuASooup to 440 V 50/60 HzIrASooOverload release, main.IrASooOverload release, main.IrASooIn = IuIiIiIi <td></td> <td></td> <td></td> <td>Cassette must be separately ordered.</td>				Cassette must be separately ordered.
Release system Image: Release system Image: Release system Image: Release system   Standard/Approval Image: Release Image: Release   Number of poles Image: Release Image: Release   Degree of Protection Image: Release Image: Release system   Image: Release system Image: Release Image: Release   Rated current = rated uninterrupted current Image: Release Image: Release   up to 440 V 50/60 Hz Image: Release Image: Release   up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Release   Up to 440 V 50/60 Hz Image: Release Image: Rele				IZMX-DTP-PTM external voltage measuring module required
Standard/Approval   IEC     Number of poles   IP3     Degree of Protection   IP31 with dors seals, IP55 with protective cover     witable for communication with integrated system monitor with integrated test possibility with graphic LCD display optionally fittable by user with comprehensive accessories     Rated current = rated uninterrupted current   In = Iu   A   2500     up to 440 V 50/60 Hz   Icu   KA   85     Overload release, min.   Ir   A   2500     Non-delayed   Ir   A   2500     Non-delayed   Ir   A   55     Non-delayed   Ir   A   2500	Construction size			IZMX40
Number of polesImage: A poleDegree of ProtectionP31 with door seals, IP55 with protective coverwitable for communication with integrated system monitor with integrated system monitor with integrated system monitorRated current = rated uninterrupted currentIn = IuAup to 440 V 50/60 HzIcaIcaS00up to 440 V 50/60 HzIcaIcaS1Overload release, max.IrAS100Non-delayedIrAS00Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrAS100Non-delayedIrS100Non-delayedIrS100Non-delayedIrS100Non-delayedIrS100Non-delayedIrS100Non-delayedIrS100Non-delayedIrIrNon-delayedIrIrNon-delayedIrIrNon-delayedIrNon-delayedIr<	Release system			Electronic release
Degree of Protection   P31 with door seals, IP55 with protective cover     suitable for zone selectivity   suitable for zone selectivity     suitable for zone selectivity   suitable for zone selectivity     with integrated system monitor   with integrated test possibility     with qraphic LCD display   In = Iu   A     Bated current = rated uninterrupted current   In = Iu   A   2500     up to 440 V 50/60 Hz   Ics   KA   85     overload release, min.   Ir   A   200     Overload release, max.   Ir   A   200     Non-delayed   Ir   A   200     Wondelayed   Ir   A   500	Standard/Approval			IEC
Rated current = rated uninterrupted current   In = Iu   A   2500     rup to 440 V 50/60 Hz   Icu   KA   85     up to 440 V 50/60 Hz   Ics   KA   85     Overload release, min.   Ir   A   2500     Non-delayed   Ir   A   85     Non-delayed   Ir   A   2500     Non-delayed   Ir   A   85     Non-delayed   Ir   A   2500     Non-delayed   Ir   A   85     Non-delayed   Ir   A   2500     Non-delayed   Ir   S   S     Non-delayed   Ir   S   S     Non-delayed   Ir   S   S     Non-delayed   Ir <td< td=""><td>Number of poles</td><td></td><td></td><td>4 pole</td></td<>	Number of poles			4 pole
Rated current = rated uninterrupted currentIn = IuASoloup to 440 V 50/60 HzIcuKASoloup to 440 V 50/60 HzIcuKASoloup to 440 V 50/60 HzIcsKASoloOverload release, min.IrASoloOverload release, max.IrASoloNon-delayedIrASoloIrASoloSoloSoloSoloIrASolo </td <td>Degree of Protection</td> <td></td> <td></td> <td>IP31 with door seals, IP55 with protective cover</td>	Degree of Protection			IP31 with door seals, IP55 with protective cover
up to 440 V 50/60 Hz     Icu     KA     85       up to 440 V 50/60 Hz     Ics     KA     85       Overload release, min.     Ir     A     100       Overload release, max.     Ir     A     2500       Non-delayed     Ir     Ir     A     2500				suitable for communication with integrated system monitor with integrated test possibility With graphic LCD display
up to 440 V 50/60 HzIcsKA85Overload release, min.IrA1000Overload release, max.IrA2500Non-delayedI = In xImage: State Stat	Rated current = rated uninterrupted current	$I_n = I_u$	А	2500
Overload release, min.     Ir     A     1000       Overload release, max.     Ir     A     2500       Non-delayed     Ir=In x     F     S	up to 440 V 50/60 Hz	l <sub>cu</sub>	kA	85
Overload release, max. Ir A 2500   Non-delayed Ii = In x Ii = In x Iii = In x	up to 440 V 50/60 Hz	I <sub>cs</sub>	kA	85
Non-delayed $I_i = I_n \times$ 2 - 15, OFF	Overload release, min.	l <sub>r</sub>	А	1000
	Overload release, max.	l <sub>r</sub>	А	2500
Delayed I <sub>sd</sub> = I <sub>r</sub> x 1,5 - 10	Non-delayed	I <sub>i</sub> = I <sub>n</sub> x		2 - 15, OFF
	Delayed	$I_{sd} = I_r x \dots$		1,5 - 10

## **Technical data**

General			
Standards			IEC/EN 60947
Ambient temperature			
Storage	9	°C	-20 - +70
Ambient temperature		°C	-20 - +70
Mounting position			
Utilization category			30° 30° B
Degree of Protection			IP31 with door seals, IP55 with protective cover

Direction of incoming supply			as required
Main conducting paths Rated current = rated uninterrupted current	I <sub>n</sub> = I <sub>u</sub>	A	2500
Rated uninterrupted current at 50 °C	l <sub>u</sub>	A	2500
Rated uninterrupted current at 60 °C	l <sub>u</sub>	A	2500
Rated uninterrupted current at 70 °C	Iu	A	2500
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	12000
Rated operational voltage	U <sub>e</sub>	V AC	690
Use in IT electrical power networks up to	U	V	440
Overvoltage category/pollution degree			111/3
Rated insulation voltage	Ui	V	1000
Switching capacity			
Rated short-circuit making capacity	I <sub>cm</sub>		
up to 440 V 50/60 Hz	I <sub>cm</sub>	kA	187
up to 690 V 50/60 Hz	I <sub>cm</sub>	kA	166
Rated short-time withstand current 50/60 Hz			
t = 1 s	I <sub>cw</sub>	kA	85
t = 3 s	I <sub>cw</sub>	kA	66
Rated short-circuit breaking capacity I <sub>cn</sub>	I <sub>cn</sub>		
IEC/EN 60947 operating sequence I <sub>cu</sub> 0-t-CO			
up to 240 V 50/60 Hz	I <sub>cu</sub>	kA	85
up to 440 V 50/60 Hz	I <sub>cu</sub>	kA	85
up to 690 V 50/60 Hz	I <sub>cu</sub>	kA	75
IEC/EN 60947 operating sequence I <sub>cs</sub> 0-t-C0-t-C0	·cu	io i	
		1.4	0F
up to 240 V 50/60 Hz	l <sub>cs</sub>	kA	85
up to 440 V 50/60 Hz	I <sub>cs</sub>	kA	85
up to 690 V 50/60 Hz	I <sub>cs</sub>	kA	75
Operating times			
Closing delay via spring release		ms	35
Total opening delay via shunt release		ms	35
Total opening delay via undervoltage release		ms	40
Total opening delay on non-delayed short-circuit release (up to complete arc quenching)		ms	52
Lifespan		S	
Lifespan, mechanical	Switching cycles (ON/ OFF)		10000
Lifespan, mechanical with maintenance	Switching cycles (ON/ OFF)		20000.
Lifespan, electrical	Switching cycles (ON/ OFF)		5000
Lifespan, electrical with maintenance	Switching cycles (ON/ OFF)		10000.
Maximum operating frequency	Operations/h		60
Heat dissipation at rated current I <sub>n</sub>			
Withdrawable units (switch with cassette)		W	350
Weight			
Withdrawable			
4-pole		kg	86
Cassette			
4 pole		kg	35
Terminal capacities			
Copper bar Withdrawable units			

mm 2 x 80 x 10

These are values used in separate switchgear. The actual values will depend on the temperature around the circuit-breaker, which is influenced by the ambient temperature, the degree of protection (IP), the mounting height, the partitions, and any external ventilation. Depending on the specific switchgear design, this may result in derating, which can then be compensated for by increasing the cross-sectional area. Temperature rise tests in the specific switchgear can provide specific and detailed information.

Permissible continuous current for circuit-breakers operating in switchboards at various internal ambient temperatures. The switchboard's internal ambient temperature should be estimated using the calculation methods of IEC regulation.

External IZMX-DTP-PTM-1 voltage measuring module required (1 module is suitable for 16 circuit-breakers)

#### Notes

Black

## **Design verification as per IEC/EN 61439**

Design vermeation as per 120/214 01455			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	2500
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	350
Operating ambient temperature min.		°C	-20
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

## **Technical data ETIM 7.0**

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])

Rated permanent current lu	А	2500
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	85
Overload release current setting	А	1250 - 2500
Adjustment range short-term delayed short-circuit release	А	5000 - 25000
Adjustment range undelayed short-circuit release	А	5000 - 30000
Integrated earth fault protection		No

Type of electrical connection of main circuit	Rail connection
Device construction	Built-in device slide-in technique (withdrawable)
Suitable for DIN rail (top hat rail) mounting	No
DIN rail (top hat rail) mounting optional	No
Number of auxiliary contacts as normally closed contact	0
Number of auxiliary contacts as normally open contact	0
Number of auxiliary contacts as change-over contact	2
With switched-off indicator	Yes
With under voltage release	No
Number of poles	4
Position of connection for main current circuit	Back side
Type of control element	Push button
Complete device with protection unit	Yes
Motor drive integrated	No
Motor drive optional	Yes
Degree of protection (IP)	IP31

# Dimensions



