	LOLARS EXPL	OLARS (BPLOLARS	BPLOIAIS BPLOIAIS BPLOIA	is Applolais Applolais Applolais App	LOLARS EXPLOLARS		
			LABS	7 Spanner F	Rd / PO Box 467 Olifantsfontein 1665		
SIM		Explosion Preve	ention Services (Pty) Ltd	Tel: +2 Fax: +2	27 (11) 316 4601 🧃		
	Rea	No: 1999/027771/0	)7	E-mail: admin-mgr@	explolabs.co.za		
LOUMIS 4	IN	G TERMS OF ARP (	OVERNMENT APPROVED	D TEST LABORATORY ITS FOR EXPLOSION PROTECTED APPAR	ATUS"		
ð			IA CERTIF				
<b>EPHOLARS</b>				*Expiry date:	21 Jan 2019 21 Jan 2022 Page 1 of 7 Issue: 0		
	Ex – Type	Examinatio	n Certificate				
9 ( 8 F	Certificate I	Number:	MS-XPL/19.0042 X I/O Terminal				
	Model / Typ Applicant:	De:	Series type ELX****-***-* Beckhoff Automation (Pt 7 Ateljee Street	:*** (y) Ltd			
E) SINOT			Randpark Ridge Randburg, Gauteng 2169, South Africa				
	Manufactur Serial No:	er:	All serial numbers importe numbers covered by a vali	nbH & Co.KG ed between issued- and expire date d report or acceptable product certif	e and all serial		
Ē.			Supplied	l by			
8			Beckhoff Automa	tion (Pty) Ltd			
			MS-XPL/19.	<b>0042 X</b>			
And as described in the Explolabs file number <b>XPL/20209/19.0042</b> is hereby <u>certified "Explosion Protected</u> (Refer to clause 1, for Ex Rating)", having been examined and inspected in accordance with the relevant requirements of South African Standards.							
SANS 60079-0: 2012 Ed 5 Explosive atmospheres Part 0: Equipment — General requirements							
SANS 60079-11: 2012 Ed 4 Explosive atmospheres Part 11: Equipment protection by intrinsic safety "i"							
Explosive atmospheres Part 7: Equipment protection by increased safety							
Risk of ignition provided:							
	Protection afforded	Equipment Protection Level (EPL) Group	Performance of protection	Conditions of operation	T class or Max Surface Temp (°C)		
	Very high	Ma	Two indonondant massa of	Equipment remains functioning when	Not applicable		
<b>@</b>  -	Verv high	Ga	protection or safe even when	Equipment remains	T4 (135°C)		
	Vanykisk	Group II Da	two faults occur independently of each other	functioning in zones 0, 1 and 2 Equipment remains			
<b>e</b>	verynign	Group III		functioning in zones 20, 21 and 22 Equipment remains functioning in			
	Enhanced	Group II	Suitable for normal operation	zone 2	T4 (135°C) 🦉		
8							
PIOLARS							

S BRION	IS GETIONIS GETIONIS GETIONIS GETIONIS GETIONIS GETIONIS GETIONIS GETIONIS
<b>2</b> <b>1</b> .	GENERAL
SMOUNE	The marking of the I/O Terminal shall include the following: Ex ec IIC T4 Gc for power supply terminals type ELX9560-**** and type ELX9410-
SIMOURE	Ex ec [ia Ga] IIC T4 Gc for all other terminals [Ex ia Da] IIIC [Ex ia Ma] I
isprouve fisprouve fisprouve fisprouve	<b>Description</b> The I/O system terminals type ELX****-**** is a modular I/O system with contacts rated in the type of protection "ec" (supply contact / E-bus connector / spring-blade contact). It consists of at least a power supply unit ELX9560, one of the signal terminals and a bus end cover ELX9012 to cover the power and E-bus contacts. An integrated E-bus interface connects to ELX signal terminals right of the ELX9560 power supply unit. These signal terminals can be combined in any way. Their intrinsically safe output circuits, type of protection Ex ia, can be led into areas which require EPL Ga, EPL Da or EPL Ma equipment. The ELX9410 power supply terminal for E-bus is used to refresh the non-intrinsically safe E bus signal. A fin at the front of the ELX9410 ensures the separation between the connection facilities of the signal terminal (intrinsically safe circuits) and the ELX9410 (non-intrinsically safe circuits). There are 2 possible constellations to use the ELX9410:
riouas Agricuas Agricuas A	<ul> <li>An additional ELX9560 power supply terminal followed by further ELX signal terminals can be connected to the right side of the ELX9410.</li> <li>Two ELX9410 terminals can be installed in direct succession for continuing the same terminal strand with standard Beckhoff EtherCAT Terminals.</li> <li>Subject and Type I/O Terminal Series type ELX****-***** Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the different modifications:</li> </ul>
8	Type ELX <u>*****</u> - <u>*****</u> - <u>*****</u> - <u>*****</u>
AND SPRIOLARS Spriola	9560 Power supply terminal 9410 Power supply terminal for E-bus 1052 2-channel digital input terminal NAMUR 1054 4-channel digital input terminal NAMUR 2002 2-channel digital output terminal 3152 2-channel analog input terminal 0/420 mA
APPIOLARS (APPIOL	3181 1-channel analog input terminal 420 mA, HART 3202 2-channel analog input terminal RTD 3204 4-channel analog input terminal thermocouple 3314 4-channel analog input terminal thermocouple
APPIOLARS	3351 1-channel analog input terminal strain gauge 4181 1-channel analog output terminal 0/420 mA, HART 5151 1-channel incremental encoder interface NAMUR Software variant
OLARS - CARLOLA	(Not Ex-relevant, for information purposes only) EtherCAT revision (Not Ex-relevant, for information purposes only)
NUCL STATE	

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	ATE NO MS-XF	IOUNS (1971) PL/19.0042	2 X PAGE	3 OF 7
Parameters				Samo
Non-intrinsically safe circuits in level of Power supply terminal type ELX9560-*				
Power supply circuit				1
red (24V), blue (0V)				
Rated nominal input voltage (-15 %, +2	20 %)	DC	24 V	
Maximum voltage	Um	AC	253 V	1
E-bus circuit				
E-bus connector Rated nominal voltage		DC	5 V	
Rated current			40 mA	
Maximum voltage	Um	AC	253 V	
Power supply terminal for E-bus type E	ELX9410-****-****	r		
Supply circuit Clamp contacts 5 (Input 24V), 6 (Input	0V)			
Rated nominal input voltage (-15 %, +2	20 %)	DC	24 V	
Maximum voltage	Um	AC	253 V	
E-bus circuit				
E-bus connector Bated nominal voltage		DC	5 V	
Rated current		bo	40 mA	8
Maximum voltage	Um	AC	253 V	1 Pio
Intrinsically safe output circuits in level	of protection ia			Mas
for connection of intrinsically safe sens	ors or actuators			
Signal terminal type ELX1052-****-****				Samo
Channel 1: Clamp contacts 4 (Uv1), 1 ( Channel 2: Clamp contacts 8 (Uv2), 5	(Input 1, I1)			
	(11) put 2, 12)			Nor
Each channel Maximum output voltage			10.75 V	
Maximum output current	lo		12 mA	Pio 1
Linear output characteristics	Po		22 m\\/	MIS
	FU		55 IIIVV	
Maximum external capacitance Co or r	maximum externa	al inductand	ce Lo:	Samo
Co [μF] 58 66 15	2.14			
Lo [mH] 100 100 100	100			AION
Signal terminal type ELX2002-****-				8
Channel 1: Clamp contacts 1 (+Output	1, +O1), 3 (-Outp	out1, -O1)		Old
Channel 2: Clamp contacts 5 (+Output	2, +02), 7(-Outp	ut2, -O2)		Mas
Each channel			a= = \	
Maximum output voltage	Uo		27.7 V 111 mA	OWN
Linear output characteristics	10			
Maximum output power	Po		768 mW	NON
Maximum external capacitance Co or r	maximum externa	al inductand	ce Lo:	8
				Jold
Lo [mH] 24 16 9.2	0.085			
	ı			

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	Signal terr Channel 1	ANN ninal ty : Clamp	IEX TO De ELX	<b>CERTIFI</b> 3152-****-** ts 1 (Uv1),	2 (GND,	OMS-XPL/19	(0042 X +11)	PAGE 4 OF 7	TOLARS
WIN (STRIOM	Channel 2: Clamp contacts 5 (Uv2), 6 (GND, -l2 Each channel Maximum output voltage Maximum output current						+12)	27.7 V 85 mA	PIOLINS (3)
	Linear out Maximum	put cha output	racteris power	tics		Po		565 mW	PIOLAIS
PLOLARS	Maximum	externa	l capac	itance Co d	or maximu	um external indu	uctance Lo:		NOLE
ALIONAIS (	Co [µF] Lo [mH]	l 3.45 43	IIA 2.2 30	IIB / IIIC 0.663 18	IIC 0.085 2				MONE
Approves 4	Signal terminal type ELX3181-**** Channel 1: Clamp contacts 8 (Uv1), 7(Input1, I1 Maximum output voltage Maximum output current Linear output characteristics							27.7 V 85 mA 565 mW	S (BRIOMIS (BRIOM
Approves Approv	Maximum Co [µF] Lo [mH]	externa I 3.45 43	l capac IIA 2.2 30	itance Co d IIB / IIIC 0.663 18	or maximu IIC 0.085 2	um external indu	uctance Lo:		anoral survey
IS (BUOME	Signal terr Channel 1 Channel 2	ninal ty : Clamp : Clamp	pe ELX: contac contac	3202-****-*` ts 1 (+RL1 ts 3 (+RL2	*** ), 2 (+R1) ), 4 (+R2)	, 5 (-RL1), 6 (-F , 7 (-RL2), 8 (-F	R1) R2)		ows grou
PIOLNIS CERTION	Each char Maximum Maximum Linear out Maximum	nel output output put cha output	voltage current racteris power	tics		Uo Io Po		4.94 V 12 mA 15 mW	and the second
s (Briouss (	Maximum Co [µF] Lo [mH]	externa I, IIA, 1000 100	l capac IIB, IIIC	itance Co o IIC 100 100	or maximu	um external indu	uctance Lo:		PLOWIS (SPLOU
Apricans Aprica	Signal terr Channel 1 Channel 2 Channel 3 Channel 4	ninal ty : Clamp : Clamp : Clamp : Clamp : Clamp	contac contac contac contac contac	3204-****-*; tts 1 (+R1), tts 2 (+R2), tts 3 (+R3), tts 4 (+R4),	5 (-R1) 6 (-R2) 7 (-R3) 8 (-R4)				s (grious) and
STUDIUS	Each char Maximum Maximum Linear out	nel output output output	voltage current racteris	tics		Uo Io		4.94 V 12 mA	MIS (STION
STIOLARS	Maximum	output	oower	itanca Or		Po	interner La	15 mW	
	Co [µF] Lo [mH]	externa I, IIA, 1000 100	IB, IIIC	IIC 100 100	n maximu	anı external indl	uctance LO:		WIN STRICK
SINDIAR									Samonas

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Stores and a stores of the sto	ANNEX TO CERTIFICATE NO MS-XP	ouns (priouns ( L/19.0042 X	PAGE 5 OF 7	
ANOLARS	Channel 1: Clamp contacts 1 (+TC1), 5 (-TC1) Channel 2: Clamp contacts 2 (+TC2), 6 (-TC2)			
PIOLAIS	Each channel Maximum output voltage Maximum output current Linear output characteristics	Uo Io	4.94 V 0.5 mA	
ALIONNE	Maximum output power Maximum external capacitance Co or maximum externa	Po Il inductance Lo:	0.5 mW	
STIOLARS	I, IIA, IIB, IIICIICCo [μF]1000100Lo [mH]100100			
S CERTOWNS	Signal terminal type ELX3314-****-**** Channel 1: Clamp contacts 1 (+TC1), 5 (-TC1) Channel 2: Clamp contacts 2 (+TC2), 6 (-TC2) Channel 3: Clamp contacts 3 (+TC3), 7 (-TC3) Channel 4: Clamp contacts 4 (+TC4), 8 (-TC4)			TANIN MARK
STOLES S	Each channel Maximum output voltage Maximum output current	Uo Io	4.94 V 0.5 mA	
	Maximum output power	Po	0.5 mW	
STIOLAR -	Maximum external capacitance Co or maximum externa         I, IIA, IIB, IIIC       IIC         Co [μF]       1000       100         Lo [mH]       100       100	I inductance Lo:		
(BPIOLARS	Signal terminal type ELX3351-**** Channel 1: Clamp contacts 2 (+UD), 6 (-UD), 3 (+UR), 7 Maximum output voltage	7 (-UR), 4 (+UV), Uo	8 (-UV)	
<b>ETHOLARS</b>	voltage difference between 2 clamps Maximum output current Maximum output power	lo Po	11.76 V 146 mA 214 mW	
IN CERTOLARS	Maximum external capacitance Co or maximum external         I       IIA       IIB / IIIC       IIC         Co [μF]       40       39       9.9       1.5         Io [mH]       20       13.3       6.6       1.7	I inductance Lo:		
NO LA	Signal terminal type ELX4181-**** Channel 1: Clamp contacts 8 (Output 1, O1), 6 (GND)			
A Contraction	Maximum output voltage Maximum output current Linear output characteristics Maximum output power	Uo lo Po	27.7 V 85 mA	
A Prior	Maximum external capacitance Co or maximum externa	I inductance Lo:		
(BILIOUNE	Co [µF]3.452.20.6630.085Lo [mH]4330182			
SIMOLUE				
SINOINE				

SUNDICIE

S BRION	ANNEX TO CERTIFICATE NO	ANS COPIOLAINS COPIOLAIN MS-XPL/19.0042					
	Signal terminal type ELX5151-****_**** Channel 1: Clamp contacts 4 (Llv1) 1 (A)						
STOLAR	Channel 2: Clamp contacts 8 (Uv2), 5 (B)						
	Each channel Maximum output voltage	Llo	10 72 V 🌧				
NOIN	Maximum output current	lo	12.4 mA				
<b>P</b>	Linear output characteristics Maximum output power	Po	33 mW				
	Maximum external capacitance Co or maximum	external inductance I	0.				
	I IIA IIB / IIIC IIC						
OLARS	Co [μF]         58         66         15         2.14           Lo [mH]         100         100         100         100						
	Signal terminal type EI X1054-****						
STATC	Channel 1: Clamp contacts 2 (Uv1), 1 (I1)						
	Channel 2: Clamp contacts 6 (UV2), 5 (I2) Channel 3: Clamp contacts 3 (Uv3), 4 (I3)						
	Channel 4: Clamp contacts 7 (Uv4), 8 (I4)						
	Each channel Maximum output voltage	Uo	10.72 V				
SM	Linear output characteristics						
	Maximum output power	Ро	28 mW 🦻				
SIM	Maximum external capacitance Co or maximum	external inductance L	.0:				
	Co [μF] 58 66 15 2.14						
	Lo[mH]   100   100   100   100						
	Ambient temperature range	Ta -25 °C	. 60 °C				
	Listing of all components used referring to older None	standards	PION				
	Based on the following documentation: IECEx B	VS 18.0005X Issue N	o.: 3				
2.	INSTALLATION INSTRUCTIONS		IOLAIS				
	It is the manufacturer's responsibility to supply in as required by IEC/SANS 60079-0 Clause 30.	nstallation instructions	with each unit offered for sale				
SIND 3	SPECIAL CONDITIONS FOR SAFE LISE (deno	ted by "X" after certificat	e number)				
<b>.</b>	i. The equipment shall only be used in an ar	rea of at least pollution	on degree 2, as defined in IEC				
STAD	60664-1. ii. The equipment shall be installed in an enclosure that provides a minimum ingress protection of						
	IP54 in accordance with IEC 60079-0. iii. Transient protection shall be provided that is set at a level not exceeding 140 % of the peak						
SIVIS	rated						
	iv. The circuits shall be limited to overvoltage Category II as defined in IEC 60664-1.						
	<ul> <li>v. The Terminal system is suitable for use in a temperature range of -25 °C to +60 °C.</li> <li>vi. Do not disconnect energized terminals.</li> </ul>						
	vii. The last terminal of each segment is to be covered by a bus end cover ELX9012, which we have the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing the same terminal set installed in direct succession for continuing terminal set installe						
	segment with standard Beckhoff EtherCAT t	erminals (e.g. EL/ES/	EK).				
<b>BUIOT</b>	connected to the right side of the ELX9410.						
<b>9</b> 4.	SCHEDULE OF LIMITATIONS (denoted by "U" a None.	fter certificate number)	1				
			NOT				
<b>EPIOLA</b>	DOCUM IS PERIOLAIS PERIOLAIS PERIOLAIS PERIOLAIS	IENT No: XPL0213 RELEA	ASE DATE: 29/05/2018 REV : 7				

Schon			OMS-XPI /19 0042 X				
5.	5. CONDITIONS OF CERTIFICATION						
SILIOIAIS	Scheme or batch e	ts must be covered by a evaluation.	QAN (Quality Assurance	Notification), Product Mark			
6.	MARKING The following (or s Supplier Manufacturer Equipment	imilar) information have to b : Beckhoff Automation (Pty : Beckhoff Automation Gm : I/O Terminal	be clearly and permanently ) Ltd bH & Co.KG	marked on all units:			
SIMOLIZE	Model/Type Serial No. Ex Rating	: Series type ELX****-***-* : :	***				
		Ex ec IIC T4 Gc	for power supply terminals and type ELX9410-****-	s type ELX9560-****-****			
SILIOINE		Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I	for all other terminals	A STATUTE			
This certif	IA Certificate No ication indicates compliance opparatus is used as relevant	: MS-XPL/19.0042 X with R10.1 of the Mines Health and Sa in accordance with:	afety Act and/or EMR 9(2) of the Occup	ational Health and Safety Act, provided			
ii) iii) iv)	SANS 10086 and IEC/SAN Any conditions mentioned Any relevant requirements	IS 61241-14 requirements as applicabl in the above report; and codes of practice enforced in ter	e; ms of the Mine Health and Safety Act	or Occupational Health and Safety Act;			
v)	and Any restrictions and condi and Safety.	tions enforced by the Chief Inspector of	of Mines or the Principal Inspector or the	he Chief Inspector: Occupational Health			
vi) vii) viii)	A revision certificate replace * - Only covers equipment If and when your QAN (Qu Certification (issued for you client's responsibility to alw	zes all previous version of the certificate Imported between the "Issued" and "Ex- ality Assurance Notification) Certificate ur equipment) and a new certificate is r vays submit the updated and valid QAN	a. opire" dates. for your equipment manufacturer expin ot submitted the existing IA Certificatio I certificate(s) to Explolabs (Pty) Ltd	res during the valid period of the IA n will then be cancelled. It is thus the			
MOIN	Responsible Test	ing Officer:					
NOWN	Shuke						
New York	D Maree Testing Officer EXPLOLABS EXF	PLOSION PREVENTION SI	ERVICES				
SPIOLAR SPIOL	This report/certificate shall any losses or damages sur This disclaimer is immutab the express written waive manufacturer attests on hi relevant standards and th documentation and standa kept on file at Explolabs (P	not be reproduced except in full withous stained on account of any failure or om le and automatically incorporated in an er of our managing director. By m is own responsibility that the equipmen hat the routine verifications and tests ard(s). The contents of electronic report ty) Ltd	It the written approval of the company ission to properly perform our duties in y contract undertaken by us; notwithst arking the equipment in accordance thas been constructed in accordance have been successfully completed a rts/certificates cannot be guaranteed.	Explolabs (Pty) Ltd shall not be liable for terms of any contract undertaken by us anding anything to the contrary, save for with the documentation/standard, the with the applicable requirements of the original certification documents will be			
BPIOLNE							
SIMOLAR							
STRICTING							
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STOLAR			UMENT No: XPI 0213 REI FASE	DATE: 29/05/2018 REV · 7			

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