



Mining And Surface Certification (Pty) Ltd

(Pty) Ltd: 2015/021934/07

THIS CERTIFICATE IS ISSUED AS AN I.A. CERTIFICATE IN TERMS OF THE MINE HEALTH AND SAFETY ACT, ACT NO 29 OF 1996 (AND REGULATIONS), THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) AND REGULATION 17 OF THE ELECTRICAL MACHINERY REGULATIONS

IA CERTIFICATE	MASC MS/21-2420X	Issue	1
Issue Date	04 February 2022	Expiry Date	25 January 2031
Applicant	Hytronic (Pty) Ltd, Cnr Stanley & Max Street, Knights, Germiston, South Africa		
Manufacturer	Hytronic (Pty) Ltd, Cnr Stanley & Max Street, Knights, Germiston, South Africa		
Description (See "Annex A" below)			
Equipment	Headlight and Monitor enclosures	Type	See below "Annex A"
			
MARKING: <i>Must be additionally applied to the equipment</i>	Supplier	Hytronic (Pty) Ltd. / Sandvik Mininig RSA (Pty) Ltd.	
	Manufacturer	Hytronic (Pty) Ltd.	
	Equipment Type	Headlight and Monitor enclosures	
	Ex Marking	See "Annex A"	
	IA Number	Ex d I/IIA T3/T4 Mb Gb "See conditions for details"	
	Serial Number	MASC MS/21-2420X (See "Conditions of Certification")	
	Safety Parameters	See "Annex A" below	
WARNING(S)	None		
Compliance:			
The equipment as described above and in MASC report 21-2420 R1 has been allocated the rating <u>Explosion Protected Ex d I/IIA T3/T4 Mb Gb</u> utilizing the SANS/IEC Standards:			
<ul style="list-style-type: none"> SANS (IEC) 60079-0: 2019 General requirements SANS (IEC) 60079-1: 2015 Equipment protection by flameproof enclosures "d" ARP 0108: 2014 Regulatory requirements for explosion protected apparatus 			
<i>Note: This certificate covers only the listed standards and does not imply compliance to any other standard, related or inferred. It is up to the manufacturer to ensure that the product complies to all relevant standards for the application.</i>			
Special conditions of use (X):			
<ul style="list-style-type: none"> See "Annex A" below 			
Conditions of manufacture:			
<ul style="list-style-type: none"> See "Annex A" below 			
 W. Haywood TECHNICAL SPECIALIST		 M. Erasmus TECHNICAL SPECIALIST	
<p>This certificate only covers the sample submitted and does not cover production units.</p> <p>According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).</p>			



Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:
 SANS 10086 requirements;
 Any conditions mentioned in the above certificate;
 Any relevant requirements of the MHS Act;
 Any restrictions and conditions enforced by the chief inspector of mines, principal inspector (Group I equipment) or chief inspector of factories (Group II equipment).



This certificate may only be reproduced in full
 The certificate is not transferable and remains the property of the issuing body.

IA CERTIFICATE: MASC MS/21-2420X
Equipment: Headlight and Monitor enclosures
(Supplementary one – To include Sandvik Style enclosures)

ANNEX A

Description	Enclosure	Populated	Unpopulated
	General	<p>Headlight and Monitor cylindrical enclosures with endcaps, with lens fitted on one or both sides. These are available in S312, S316 and HYCL-1 range. The equipment consists of a cylindrical metallic body with an open end into which an end cap is secured by M6x1 6g 16mm long grade A2-70 stainless steel socket head cap screws, number depending on the model. The closed end may either be solid or be fitted toughened glass for light transmission. The enclosure bodies are welded to a mounting bracket. The cable enters into the equipment via 2 off M25x1.5 6H threaded entries, with an option of angled entry blocks that are welded in position. The flame path for all models have the option of being either parallel or tapered. The S312 range has the option of the body to have both ends as open, suitable for installing end caps. The internal earth stud is welded to the threaded through hole in the body to make it non-removable. The entries for the S312 Range are either in the solid end or the side of the enclosure.</p> <p>Nomenclature:</p> <ul style="list-style-type: none"> - S312– Mini Headlight(Halogen Lamp) - S312LED– Mini Headlight (LED Lamp) - S312LEDR-6– Mini Headlight c/w Reverse LED's (LED Lamp) - HBM– Battery Monitor - HLD– LED Cluster Display - HRBI– Roof Bolting Indicator - HLB– Laser Beam - HHAM– Hour/Amp Meter (Analogue or Digital) - HMFS – Hour Meter and Fault Simulator - HCAM – Mini Camera - HDLD– Double ended LED unit <p>The entries for the S316 Range are either in the solid end or the end cap of the enclosure. Nomenclature:</p> <ul style="list-style-type: none"> - S316 – Maxi Headlight(Halogen Lamp) - S316R – Maxi Headlight c/w Reverse (Halogen Lamp) - S316LED – Maxi Headlight (LED Lamp) - S316LEDR-6 – Maxi Headlight c/w Reverse LED's (LED Lamp) - S316CAM – Maxi Camera - S316BM– Battery Monitor - S316LD– LED Cluster Display - S316RBI– Roof Bolting Indicator - S316LB– Laser Beam - S316HAM– Hour/Amp Meter (Analogue or Digital) - S316HMFS – Hour Meter and Fault Simulator <p>The entries for the HYCL-1 Range are in the enclosure's end cap. Nomenclature:</p> <ul style="list-style-type: none"> - HYCL– Cluster Light (Halogen Lamps) - HYCL(LED) – Cluster Light (LED Lamps) - HYCL-1–Intelligent Display Unit - HYCL-2–Intelligent Display Unit Identical to HYCL-1, different software version - HYCL-3–Intelligent Display Unit Identical to HYCL-1, different software version - HCCIL-1 – Intelligent Display Unit Identical to HYCL-1, different software version - HCCIL-2 – Intelligent Display Unit Identical to HYCL-1, different software version - HCCIL-3 – Intelligent Display Unit Identical to HYCL-1, different software version <p>The S312 range has the option of the body have both ends suitable for end caps.</p> <p>For the S312 Range and the S316 Range, the toughened glass is cemented into the end cap, and maintained in position by various retaining rings, depending on purpose.</p> <p>For the HYCL-1 Range, the toughened glass is cemented into the end of the enclosure body, and maintained in position by a retaining ring. The HYCL-1 Range also has the option for a lamp insert ring.</p> <p>The S312 Range with slight outer esthetical differences can also be supplied by Sandvik Mining RSA (Pty) Ltd. and shall be referred to as the Sandvik Style Enclosures.</p>	

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Equipment: Headlight and Monitor enclosures
(Supplementary one – To include Sandvik Style enclosures)

	Dimensions	• See Above
	Material	• See Above
Standard compliance	See "certificate" above	
Warnings	See "certificate" above	
Conditions of Certification		
Special conditions of use (X):	<ul style="list-style-type: none"> • The S312 range and S316 range are limited to a maximum of 35W (1 x 35W lamp) power dissipation for T4 and is limited to a maximum of 50W (1 x 50W lamp) power dissipation for T3 and Group I. • The HYCL range is limited to a maximum of 105W (3 x 35W lamp) power dissipation for T4 and Group I (orientation horizontal), or T3 and Group I (orientation horizontal / vertical) • Batteries and/or cells are not installed in the equipment. • For the S312 and S316 range, any power dissipation above 12.6W a cable and gland with a minimum rating of 115°C shall be used. • For the HYCL range, any power dissipation above 20W a cable and gland with a minimum rating of 115°C shall be used. 	
Conditions of manufacture	<ul style="list-style-type: none"> • The equipment shall comply with the safety requirements of the applicable industrial standards. • The routine overpressure test on the enclosure is required when enclosure is fitted with the welded block entry, overpressure test of 1050kPa for 10s • A copy of the type MASC certificate must be issued with each unit • According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory.) 	

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

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MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practices