



CERTIFICATE OF CONSTANCY OF PERFORMANCE

0407-CPR-946 (IG-307-2014)

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

VARIABLE MESSAGE TRAFFIC SIGNS

identified as specified in the annex

placed on the market by

CHAINZONE TECHNOLOGY (FOSHAN) CO., LTD.

Chainzone Tech. Industrial Park, Taishan Bei Rd., Sanshan Avenue,
Nanhai District, Foshan City, Guangdong Province, 528200, China (PRC)

and produced in the manufacturing plant

Chainzone Tech. Industrial Park, Taishan Bei Rd., Sanshan Avenue,
Nanhai District, Foshan City, Guangdong Province, 528200, China (PRC)

This certificate attests that all provisions concerning the assessment and verification of constancy of performance at system 1 and the performances described in annex ZA of the standard

EN 12966-1:2005 + A1:2009

are applied and that

the above-mentioned product fulfils all the prescribed requirements

Bellaria-Igea Marina - Italy, 22 May 2020

(1) adding of new models

CPD Department Technical Manager
(Dott. Ing. Giuseppe Persano Adorno)

Revision No. 15⁽¹⁾

Chief Executive Officer

This document is made up of 1 page and 1 annex (in a bilingual format (Italian and English), in case of dispute the only valid version is the Italian one), was first issued on 18 November 2014 and will remain valid as long as the harmonised standard remains valid or the manufacturing conditions in the plant or the factory production control itself are not modified significantly. The original of this document consists of an electronic document digitally signed pursuant to the applicable Italian Legislation.

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EC NOTIFIED BODY No. 0407

PRODUCT: VMS containing FVMS-04L-RGB modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		318550/8665/CPR	Pass
EN 60068-2-64	Vibration test		318551/8666/CPR	Pass
EN ISO 9227	Corrosion test		318549/8664/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		318547/8662/CPR	P2 (IP54)
EN 60068-2-14	Change of temperature test		318548/8663/CPR	T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	320493/8836/CPR	Red, green, blue, yellow and white: L3
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (50 (W) × 13 (H) matrix of FVMS-04L-RGB modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1
	Assessment of calculation report referring to a 1600 mm × 1600 mm VMS (5 (W) × 5 (H) matrix of FVMS-04L-RGB modules) supported by a single post		320186/8813/CPR	PAF1, WL2, DSL0, PL3, TDB3, TDT3

EC NOTIFIED BODY No. 0407

PRODUCT: VMS containing FVMS-04E-RGB modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		327396/9419/CPR	Pass
EN 60068-2-64	Vibration test		327400/9423/CPR	Pass
EN ISO 9227	Corrosion test		327397/9420/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		327399/9422/CPR	P2 (IP54)
EN 60068-2-14	Change of temperature test		327398/9421/CPR	T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	328166/9455/CPR	Red, green, blue, yellow and white: L3
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B5
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (20 (W) × 10 (H) matrix of FVMS-04E-RGB modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1
	Assessment of calculation report referring to a 1600 mm × 1600 mm VMS (4 (W) × 8 (H) matrix of FVMS-04E-RGB modules) supported by a single post		330879/9687/CPR	PAF1, WL2, DSL0, PL3, TDB3, TDT3

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PRODUCT: VMS containing FVMS-01M-RGB modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		331638/9753/CPR	Pass
EN 60068-2-64	Vibration test		331642/9757/CPR	Pass
EN ISO 9227	Corrosion test		331639/9754/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		331641/9756/CPR	P2 (IP54)
EN 60068-2-14	Change of temperature test		331640/9755/CPR	T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	332665/9860/CPR	Red, green, blue, yellow and white: L3, L3(*)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (33 (W) × 17 (H) matrix of FVMS-01M-RGB modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS12-RGB-A modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		336623/10189/CPR	Pass
EN 60068-2-64	Vibration test		336622/10188/CPR	Pass
EN ISO 9227	Corrosion test		336626/10192/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		336624/10190/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		336625/10191/CPR	T1 / T2 / T3
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	341479/10539/CPR 336958/10216/CPR	Red, green, blue, yellow and white: L3, L3(*)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B3, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (55 (W) × 14 (H) matrix of VMS12-RGB-A modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS16-RGB-B modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		340647/10473/CPR	Pass
EN 60068-2-64	Vibration test		340635/10461/CPR	Pass
EN ISO 9227	Corrosion test		340643/10469/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		340639/10465/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		340630/10456/CPR	T1 / T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	341477/10537/CPR 341903 338603	Red, green, blue, yellow and white: L3, L3(*)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (31 (W) × 16 (H) matrix of VMS16-RGB-B modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS20-RGB-B modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		340649/10475/CPR	Pass
EN 60068-2-64	Vibration test		340636/10462/CPR	Pass
EN ISO 9227	Corrosion test		340645/10471/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		340641/10467/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		340632/10458/CPR	T1 / T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	342124/10574/CPR 342431 338604	Red, green, blue, yellow and white: L3, L3(*)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (50 (W) × 13 (H) matrix of VMS20-RGB-B) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS25-RGB-B modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		340648/10474/CPR	Pass
EN 60068-2-64	Vibration test		340637/10463/CPR	Pass
EN ISO 9227	Corrosion test		340644/10470/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		340640/10466/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		340631/10457/CPR	T1 / T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	341735/10553/CPR 341904	Red, green, blue, yellow and white: L3, L3(*)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (40 (W) × 10 (H) matrix of VMS25-RGB-B modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS31.25-RGB-A modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		343769/10746/CPR	Pass
EN 60068-2-64	Vibration test		340638/10464/CPR	Pass
EN ISO 9227	Corrosion test		343770/10747/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		343771/10748/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		343772/10749/CPR	T1 / T2
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	343612/10730/CPR 343613	Red, green, blue, yellow and white: L3, L3(*)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (51 (W) × 13 (H) matrix of VMS31.25-RGB-A modules) supported by a portal gantry		359387/12143/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS20-RGB-A modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		356651/11887/CPR	Pass
EN 60068-2-64	Vibration test		357869/12006/CPR	Pass
EN ISO 9227	Corrosion test		356649/11885/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		356648/11884/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		357210/11934/CPR	T3
			357209/11933/CPR	T2
			356650/11886/CPR	T1
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	356629/11883/CPR 356630	Red, green, blue, yellow and white: L3, L3(*), L3(T)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6, B7
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (25 (W) × 13 (H) matrix of VMS20-RGB-A modules) supported by a portal gantry		358800/12086/CPR	PAF1, WL9, DSL4, PL3, TDB1

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PRODUCT: VMS containing VMS10-RGB-B modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		364731/12580/CPR	Pass
EN 60068-2-64	Vibration test		364734/12583/CPR	Pass
EN ISO 9227	Corrosion test		364740/12589/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		364737/12586/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		364745/12594/CPR	T3
			364744/12593/CPR	T2
			364743/12592/CPR	T1
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	364923/12607/CPR 370546	Red, green, blue, yellow and white: L3, L3(*), L3(T)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6, B7
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (33 (W) × 17 (H) matrix of VMS10-RGB-B modules) supported by a portal gantry		366141/12789/CPR	PAF1, WL9, DSL4, TDB1

EC NOTIFIED BODY No. 0407

PRODUCT: VMS containing VMS12-RGB-B modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		364732/12581/CPR	Pass
EN 60068-2-64	Vibration test		364735/12584/CPR	Pass
EN ISO 9227	Corrosion test		364741/12590/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		364738/12587/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		364748/12597/CPR	T3
			364747/12596/CPR	T2
			364746/12595/CPR	T1
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	365012/12611/CPR 370547	Red, green, blue, yellow and white: L3, L3(*), L3(T)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6, B7
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (42 (W) × 21 (H) matrix of VMS12-RGB-B modules) supported by a portal gantry		366141/12789/CPR	PAF1, WL9, DSL4, TDB1

EC NOTIFIED BODY No. 0407

PRODUCT: VMS containing VMS16-RGB-C modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		364733/12582/CPR	Pass
EN 60068-2-64	Vibration test		364736/12585/CPR	Pass
EN ISO 9227	Corrosion test		364742/12591/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		364739/12588/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		364751/12600/CPR	T3
			364750/12599/CPR	T2
			364749/12598/CPR	T1
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	364548/12562/CPR 370548	Red, green, blue, yellow and white: L3, L3(*), L3(T)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6, B7
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (31 (W) × 16 (H) matrix of VMS16-RGB-C modules) supported by a portal gantry		366141/12789/CPR	PAF1, WL9, DSL4, TDB1

EC NOTIFIED BODY No. 0407

PRODUCT: VMS containing VMS12-RGB-C modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		370193/13159/CPR	Pass
EN 60068-2-64	Vibration test		370194/13160/CPR	Pass
EN ISO 9227	Corrosion test		370195/13161/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		370196/13162/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		370200/13165/CPR	T3
			370199/13164/CPR	T2
			370198/13163/CPR	T1
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	370853/13248/CPR and 371664	Red, green, blue, yellow and white: L3, L3(*), L3(T)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (42 (W) × 21 (H) matrix of VMS12-RGB-C modules) supported by a portal gantry		370225/13167/CPR	PAF1, WL9, DSL4, TDB1, TDT0

EC NOTIFIED BODY No. 0407

PRODUCT: VMS containing VMS25-RGB-C modules				
Applied standard	Laboratory test		Test report number	Performance value
EN 60598-1	Impact test		370125/13148/CPR	Pass
EN 60068-2-64	Vibration test		370126/13149/CPR	Pass
EN ISO 9227	Corrosion test		370127/13150/CPR	Pass
EN 60529	Degrees of protection provided by enclosures (IP-class)		370128/13151/CPR	P3 (IP56)
EN 60068-2-14	Change of temperature test		370131/13154/CPR	T3
			370130/13153/CPR	T2
			370129/13152/CPR	T1
EN 60068-2-30	Damp heat cycling test			Pass
EN 12966-1	Optical performance (luminance)	Luminance	370028/13138/CPR and 371665	Red, green, blue, yellow and white: L3, L3(*), L3(T)
		Luminance ratio		Red, green, blue, yellow and white: R3
		Beam width		Red, green, blue, yellow and white: B1, B2, B3, B4, B5, B6
		Uniformity		Pass
	Chromaticity co-ordinates	Colour		Red, green, blue, yellow and white: C2
EN 12899-1	Assessment of calculation report referring to a 8000 mm × 2100 mm VMS (20 (W) × 10 (H) matrix of VMS25-RGB-C modules) supported by a portal gantry		371138/13275/CPR	PAF1, WL9, DSL4, TDB1, TDT0