

## **AUTHORIZATION TO MARK**

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

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Applicant: BEKA associates Ltd

Old Charlton Road

Address: Hitchin

Herts SG5 2DA

Country: United Kingdom

Party Authorized To Apply Mark:

Report Issuing Office:

Manufacturer: BEKA associates Ltd

Old Charlton Road

Address: Hitchin

Herts SG5 2DA

Country: United Kingdom

Same as Manufacturer

Intertek Testing & Certification Ltd., Leatherhead

Control Number: 4008610 Authorized by:

for L. Matthew Snyder, Certification Manager



Intertek

This document supersedes all previous Authorizations to Mark for the noted Report Number.

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Intertek Testing Services NA Inc. 545 East Algonquin Road, Arlington Heights, IL 60005 Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672



## **AUTHORIZATION TO MARK**

Standard(s): Explosive Atmospheres – Part 0: Equipment – General Requirements [UL 60079-0:2019

Ed.7+R:15Apr2020]

Explosive Atmospheres - Part 11: Equipment Protection By Intrinsic Safety 'i' [UL 60079-11:2013 Ed.6 +R:28Mar2014]

Explosive Atmospheres - Part 0: Equipment - General Requirements [CSA C22.2#60079-0:2015 Ed.3]

Explosive Atmospheres - Part 11: Equipment Protection by Intrinsic Safety "i" (R2018) [CSA C22.2#60079-11:2014 Ed.2]

Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations [UL 121201:2017 Ed.9+R:26Aug2019]

Enclosures for use in Class II, Division 1, Groups E, F, and G Hazardous Locations [CSA C22.2#25:2017 Ed.4]

Nonincendive Electrical Equipment For Use In Class I And II, Division 2 And Class III, Divisions 1 and 2 Hazardous (Classified) Locations [CSA C22.2#213:2017 Ed.3+U1;U2]

Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements>Valid without technical revision: 01Jan2022< [UL 61010-1:2012 Ed.3+R:29Apr2016]

Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use Part 1: General Requirements [CSA C22.2#61010-1-12:2012 Ed.3+U1;U2;A1]

**Product:** 4 and 5 Digit Loop Powered Indicators and Loop Powered Rate Totaliser for use in:

Class I Division 1 Groups A B C D T5 -40°C ≤ Ta ≤ +70°C

Class II Division 1 Groups E F G -40°C ≤ Ta ≤ +60°C

Class III Division 1 -40°C ≤ Ta ≤ +60°C

Class I Zone 0 AEx ia IIC T5 Ga -40°C  $\leq$  Ta  $\leq$  +70°C Zone 20 AEx ia IIIC T80°C Da -40°C  $\leq$  Ta  $\leq$  +60°C

Ex ia IIC T5 Ga  $-40^{\circ}$ C  $\leq$  Ta  $\leq$  +70 $^{\circ}$ C

Ex ia IIIC T80°C Da -40°C ≤ Ta ≤ +60°C

and

Class I Division 2 Groups A B C D T5

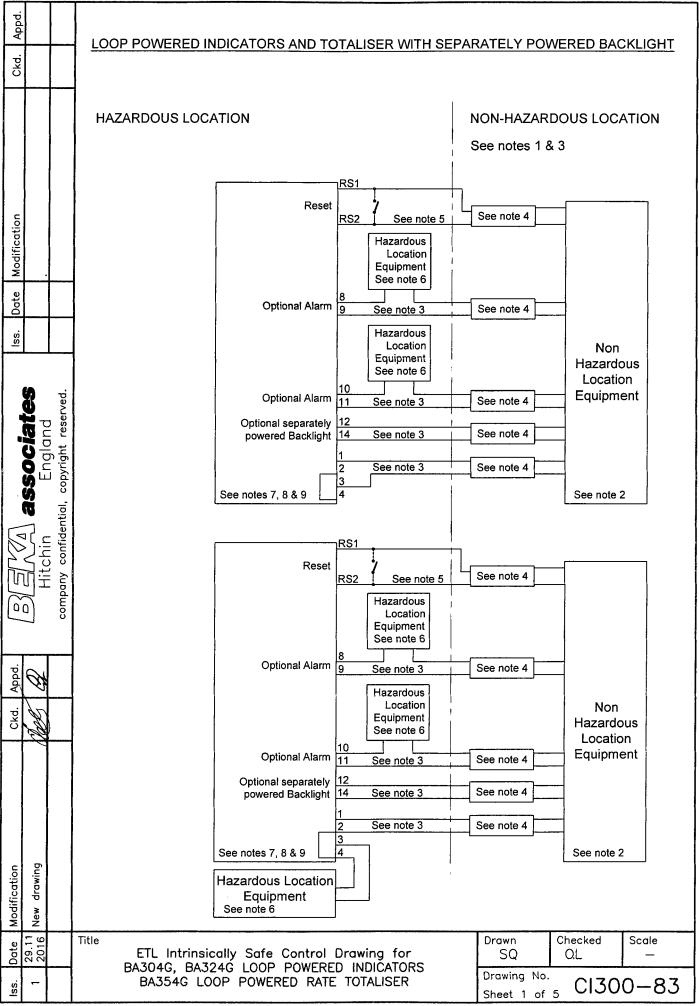
Class II Division 2 Groups F G

Class III Division 2 -40°C ≤ Ta ≤ +70°C

**Brand Name: BEKA** 

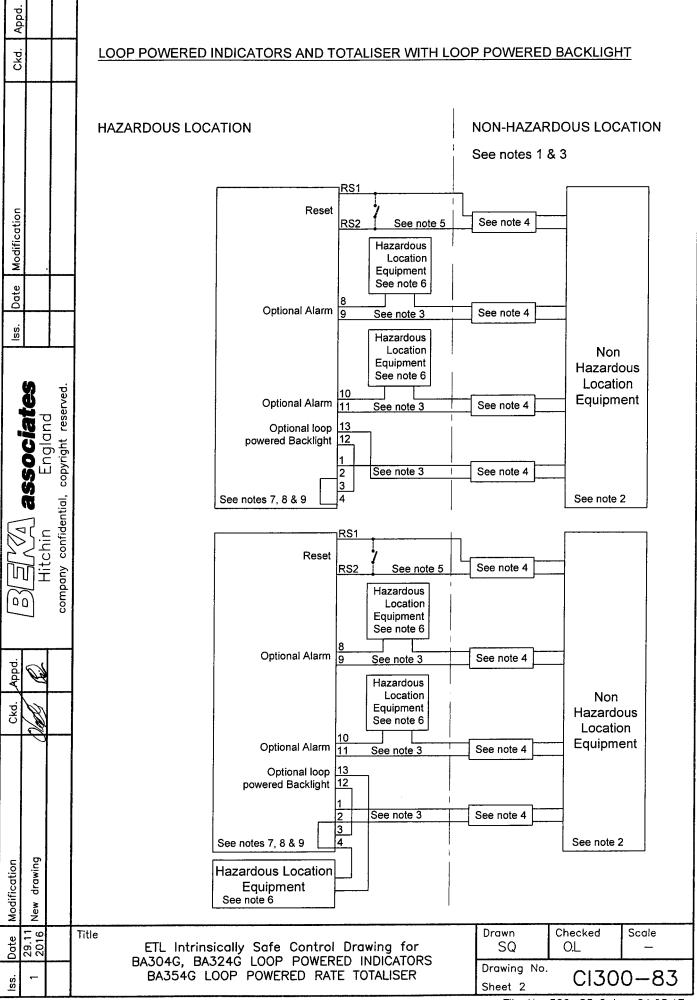
Models: BA304G, BA324G, BA354G.





File No 300-83s1.dwg 04.05.17





File No 300-83s2.dwg 04.05.17

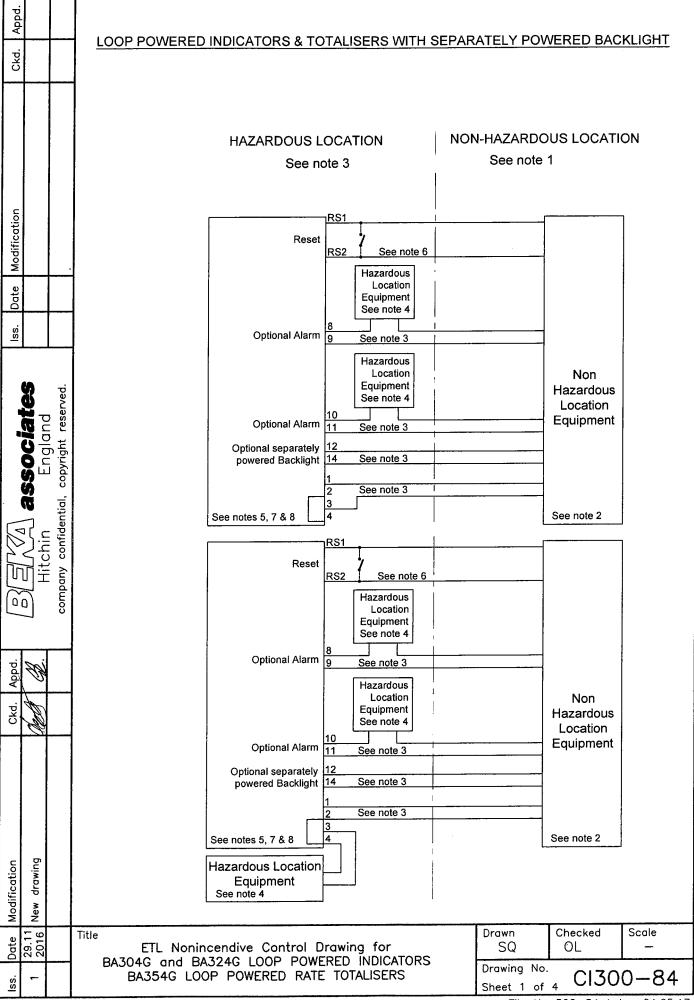


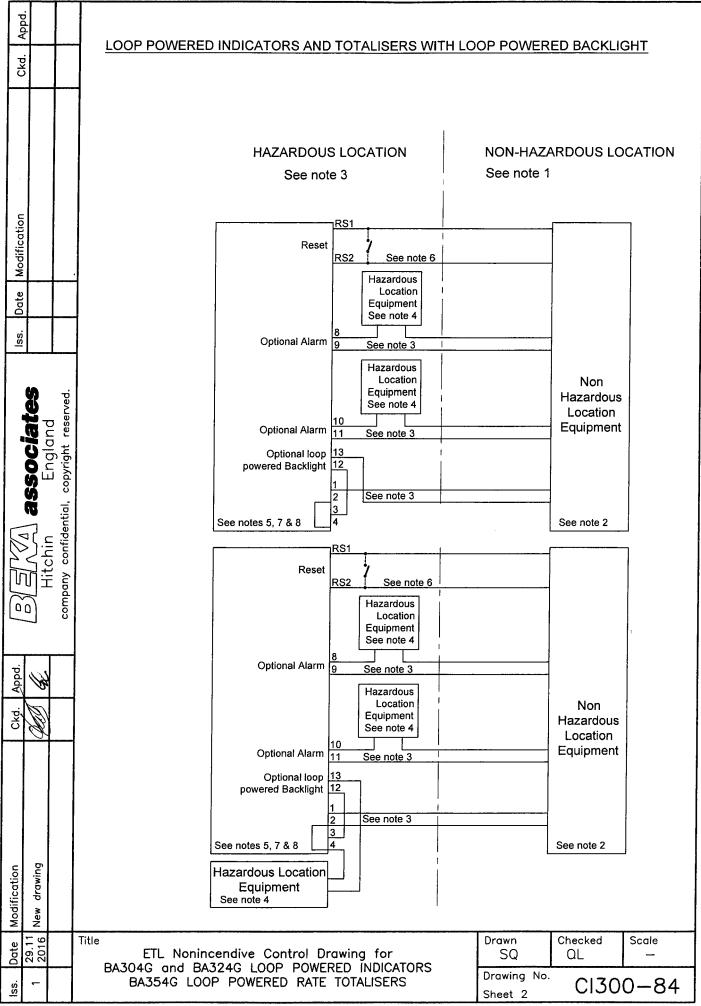
	Т	Т	Т			<del></del>						
Appd.												
Ckd.			No	otes								
			The associated protective barriers and galvanic isolators shall be NRTL approved and manufacturers instructions shall be followed when installing this equipment.  For installations in Canada the associated protective barriers and galvanic isolators s NRTL or CSA approved and the manufacturers installation drawings shall be followed installing this equipment.									
Modification			2.	The unclassified location equipment	ent shall not use or generate more than 250V rms or 250V dc.							
Iss. Date M	•		3. Installations shall be in accordance with ANSI/ISA RP 12.06.01 'Installation of Intrinsically Sa Systems for Hazardous (Classified) Locations' and the National Electrical Code ANSI/NFPA Installations in Canada shall be in accordance with the Canadian Electrical Code C22.2.									
	<b>99</b>	served.	4.	One single channel or one two chentity parameters complying with		arrier or galv	anic isolator	with				
	ASSOCIATES chin England confidential, copyright reserved.			Uo equal or less than	The lowest Ui of the NRTL of installed in the loop.	or CSA appro	oved appara	tus				
		rtial, cop		o equal or less than	The lowest li of the NRTL or installed in the loop.	r CSA approv	ved apparatu	ıs				
1/2/1	J. Shin	confider		Po equal or less than	The lowest Pi of the NRTL of installed in the loop.	or CSA appro	oved apparat	us				
5/6/	J E	company		Lo equal or greater than	The sum of the cable induct inductances Li of each NRT apparatus in the loop.							
Ckd. Appd.	Chap of			Co equal or greater than	The sum of the cable capacicapacitance Ci of each NRT apparatus in the loop.							
			5.	Reset terminals RS1 and RS2 are They may be connected to one sit or galvanic isolator as defined in r requirements for simple apparatus or for installations in Canada by the	ngle channel or one two chan note 4 And / or to a single pol s as defined in the National El	nel associate e switch com ectrical Code	plying with	İ				
Modification	New drawing											
Date	29.11 2016		Title	ETL Intrinsically Safe Co BA304G, BA324G LOOP P		Drawn SQ	Checked QL	Scale —				
lss.	-		BA354G LOOP POWERED RATE TOTALISER  Drawing No. Sheet 3									

	·		<del></del>								
Appd.	-										
	1	<del> </del>	6. Simple Apparatus as defined in the National Electrical Code ANSI/NFPA 70, or for installations in Canada by the Canadian Electrical Code C22.2								
Skd.			OR:								
			Ui	equal or greate	er than	The highest Uo of the powering the loop.	NRTL or CSA approved a	pparatus			
			li	equal or greate	IRTL or CSA approved ap	L or CSA approved apparatus					
lo U			Pi	equal or greate	r than	The highest Po of the NRTL or CSA approved apparatus powering the loop.					
Modification			:	of the NRTL or approved appa powering the lo	ratus op						
s. Date	I		equal or gre		er than The sum of the cable inductances Li of each NR apparatus in the loop.			aı			
lss.	<u> </u>	1		of the NRTL or approved appar	ratus						
	associates England al, copyright reserved.			powering the lo equal or greate	-	The sum of the cable capacitances and the internal capacitances Ci of each NRTL or CSA approved apparatus in the loop.					
		any confidential,		wered indicator n the table belo	s with coding and model n	umbers as					
70	بار س	compai	_		S						
		ŏ	Туре	· Model Nos.		Division Marking	Zonal Marking	Ambient Temp.			
Appd.	W.		Loop powered indicators Loop powered ra totaliser	BA304G BA324G tte BA354G	Gas: Class I Divis	sion 1 Groups A, B, C & D T5	Gas: Class I Zone O AEx ia IIC T5 Ga	-40°C to +70°C			
Ckd. Ap	Call La		Dust: Class II Division 1 Class III Division 1		sion 1 Groups E, F & G Ision 1	Dust: Zone 20 AEx ia IIIC T80°C Da —40°C to +60°C					
Modification	New drawing	7	8. CAUTION The BA304G and BA324G Indicators and the BA354G Rate Totaliser enclosures are manufactured from conducting plastic per Article 250 of the National Electrical Code.    Description   Descr								
lss. Date	1 29.11 2016		BA304	Intrinsically S 4G, BA324G L 354G LOOP P	Drawn Checked O.L.  Drawing No. Sheet 4	Scale — 300—83					

Appd.							
<u> </u>	9. Safety parameters						
Ckd	4/20mA input terminals 1, 2, 3 & 4	4/20mA input terminals 1, 2, 3, 4, 12 & & loop powered backlight.					
	Ui = 30V Ii = 200mA Pi = 0.84W Uo = 1.1V Io = 3mA Po = 4.5mW	Ui Ii Pi Uo Io Po	= = = = = = = = = = = = = = = = = = = =	30V 200mA 0.84W 1.1V 3mA 4.5mW			
Modification	Ci = 5.4nF Li = 0.016mH Co = 60.6nF Lo = 0.78mH	Ci Li Co Lo	= =	5.4nF 0.016mH 60.6nF 0.78mH			
lss. Date	Separately powered backlight terminals 12 & 14.	Alarm	termir	nals 8, 9, 10 a	and 11		
SSOCiates England copyright reserved.	Ui = 30V Ii = 200mA Pi = 0.84W	Ui Ii Pi Uo Io Po	= = = = = = = = = = = = = = = = = = = =	30V 200mA 0.84W 1.47V 1.0µA 2.2µW			
e)[크사스] <b>associat</b> Hitchin England company confidential, copyright rese	Ci = 3.3nF Li = 0.008mH Co = 63nF Lo = 0.79mH	Ci Li Co Lo	= = = =	0nF 0.008mH 66nF 0.79mH			
Hitcompany o	Reset terminals RS1 & RS2 BA354G rate totaliser only.						
Ckd. Appd.	Ui = 30V Ii = 200mA Pi = 0.84W Uo = 6V Io = 2.5mA Po = 3.8mW Ci = 0nF Li = 0.008mH Co = 66nF						
Modification  Modification  Modification  Modification	Lo = 0.79mH			Drawn	Checked	Scale	
lss. Date 1 29.11 2016	ETL Intrinsically Safe Control Drawing for BA304G, BA324G LOOP POWERED INDICATO BA354G LOOP POWERED RATE TOTALISE	SQ Drawing No. Sheet 5	O.L	0-83			







1 -:												
Appd.			Notes									
Ckd.			1. The unclassified location equipment shall not use or generate more than 250V rms or 25									
$\vdash$												
u			ANSI/NFPA Field Wiring wiring metho	70. The N Apparatus ds permitte	ng installations shall be in accordationincendive Field Wiring concept with Associated Nonincendive Field for unclasified locations. Instatrical Code C22.2.	allows interconned Id Wiring Apparatu	ction of Nonincendive using any of the					
Modification			3. Classified location equipment shall be NRTL Approved Nonincendive Field Wiring Appara simple apparatus as defined in ANSI/NFPA70. For Canadian installations classified locations.									
Date		ļ	equipment sh	equipment shall be NRTL or CSA Approved Nonincendive Field Wiring Apparatus.								
lss.												
	<b>ates</b> nd reserved.				efined in the National Electrical Co n Electrical Code C22.2 or as defi		, or for installations in					
	associal Fudion	Engla copyright		5. Loop powered indicators and loop powered rate totalisers with model numbers and coding as shown in the tables below.								
		ξ÷										
	ے لم د	den _	Туре	Model Nos.	'G' FIELD MOUNTING INSTRUMENT:  Division Marking	Zonal Marking	Ambient Temp.					
2/回		= >	Type  Loop powered indicators Loop powered rate totaliser	Model Nos.  BA304G BA324G BA354G		<del> </del>	Ambient Temp.  -40°C to +70°C					
Ckd. Appd.	Į Į		Loop powered indicators Loop powered rate totaliser  6. Reset termina They may be Nonincendive	BA304G BA324G BA354G als RS1 an connected Field Wiri	Division Marking  Class I Division 2 Groups A, B, C & D T5  Class II Division 2 Groups F & G	None  None  G Rate Totaliser.  Wiring Apparatus such as a single p	-40°C to +70°C					
Modification Ckd. Appd.	New drawing My 2. Hit	company	Loop powered indicators Loop powered rate totaliser  6. Reset termina They may be Nonincendive	BA304G BA324G BA354G als RS1 an connected Field Wiri	Division Marking  Class I Division 2 Groups A, B, C & D T5 Class II Division 2 Groups F & G Class III Division 2  d RS2 are only fitted to the BA354 I to Associated Nonincendive Fielding Apparatus or simple apparatus 6, BA324G Indicators and the BA3	None  None  G Rate Totaliser.  Wiring Apparatus such as a single p	-40°C to +70°C					
Modification Ckd. Appd.	drawing All A. Hit	company	Loop powered indicators Loop powered rate totaliser  6. Reset termina They may be Nonincendive	BA304G BA324G BA354G als RS1 an connected Field Wiri	Division Marking  Class I Division 2 Groups A, B, C & D T5 Class II Division 2 Groups F & G Class III Division 2  d RS2 are only fitted to the BA354 I to Associated Nonincendive Fielding Apparatus or simple apparatus 6, BA324G Indicators and the BA3	None  None  G Rate Totaliser.  Wiring Apparatus such as a single p	-40°C to +70°C					

[ <del>2</del>	3	T											
Appd	_	-	_	. Safety pa	arame	tore							
- P	2		-	4/20mA input terminals 1, 2, 3 & 4						put terminals vered backlig		12 & 13	
					li Uo Io	= = =	200mA 1.1V 3mA		li Uo Io	= = =	200mA 1.1V 3mA		
Modification						power 2 & 14	ed backligh	t	Alarm	termi	nals 8, 9, 10	and 11	
	7	-	-		Ui	=	30V		Ui li	=	30V 200mA		
Date		<u> </u>							Uo Io	=	1.47V 1.0µA		
Iss			-				S1 & RS2 54NG rate	totalisers only	y.		·		
	<b>(1)</b>	rnitoriiii company confidential, copyright reserved.			Ui Uo Io	= =	4.3V 6V 2.5mA						
Ckd. Appd.	The Sale												
Modification	New drawing												
Date	29.11 2016		Title	ETL N	loning	endive	Control	Drawing for	47000		Drawn SQ	Checked OL	Scale —
lss.	-	·	BA304G and BA324G LOOP POWERED INDICAT BA354G LOOP POWERED RATE TOTALISERS							Drawing No. Sheet 4	CI30	0-84	