

# TOPAS0601 Template for comments and TOPAS Board Observations

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Date: 07/1/21	Document TR2542A
Combined Comments Compiled by K Franklin, Administrator TOPAS	

(1)	(2)	(3)	(4)	(5)	(6)	(7)
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	2.2		te	<p><i>Whilst products are explicitly not permitted to provide any indication of right of way, how do we ensure this in operation? Users will assume that a demand met by a positive response (green man) constitutes a right of way.</i></p> <p><i>Conversely, if such a requirement is appropriate, should it also be applied to 2511?</i></p>		<p>The display of the green person is an invitation to cross and will only be raised if a demand has been inserted and not cancelled. Non-contact means of inserting a pedestrian demand does not alter the meaning of the green person.</p> <p><b>Agreed:</b> Add a note to the clause that the right of way indication is controlled by a traffic signal controller compliant with TOPAS 2500.</p>
	2.6		ge	<p><i>The wording on the pedestrian demand display unit may need text inserting to explain how to use it correctly. There is already a precedent set in TSRGD legends for crossings table for diagram 4003.1 which states in point 2. The legend ‘stand on mat’ may be added between the legends ‘push button’ and ‘wait for signal’ This should also allow for the words ‘or hold hand under’ or ‘wave hand in front’ or</i></p>	<p>Products shall not alter the appearance of pedestrian demand or display units such that they are no longer compliant with the requirements of TSRGD however appropriate signage/legends may be used in compliance with TSRGD to inform the public</p>	<p>The face/layout and look of pedestrian signals, push buttons etc. is defined in TSRGD and any change beyond this will negate the legal validity of the crossing. (This is the agreed DfT position)</p> <p>Separate local publicity should be used to explain the working of these crossings</p>

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				<i>similar appropriate wording to be used and inserted.</i>	about the use of the pedestrian demand display unit.	enhancements which will need to be implemented by the customer / local Authority. The exact form of this is outside the scope of this specification.  <b>Not Agreed:</b> No change to the clause.
	2.7 b)	B	te	<i>The range of 20mm is too close to the sensor and risks the user accidentally touching the sensor or PBU casing thus defeating the objective of preventing the risk of touching the casing and potentially contracting a virus or other pathogen or merely getting their hands dirty from surface contaminants. A more realistic distance should be 70mm. This is important to protect the public from harm.</i>	<i>A gesture must be detected when presented within 70mm to 200mm from the pedestrian unit</i>	The must detect range is specified as 200mm to 20mm so all products shall respond when a hand is within that range. This does not necessarily require approaching all the way to 20 mm but does ensure that if a hand is held very close to the unit it is still detected and serves to avoid contact.  <b>Not Agreed:</b> No text change required but a diagram will be added to clarify the must detect and may detect zones.

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	2.7	c)	ge	<i>Does this have any meaning from a compliance point of view ? Consider a test scenario: Detects = pass Does not detect = pass</i>	Consider deleting item c).	All parts of clause 2.7 have to be met to achieve a pass. This is a “may detect” definition. <b>Not Agreed:</b> No text change required but a diagram will be added to clarify.
	2.7		ge	<i>In order to maintain consistency over the past 50 years or so, we should be asking pedestrians to ‘present the gesture <u>over</u> the <u>existing</u> pushbutton’.</i>		While uniformity of user experience is desirable the size of a hand (presumably) allows some latitude around where the gesture is applied, and the specification allows for a diversity of implementations. <b>Not Agreed:</b> No text change required but a diagram will be added to clarify the must detect and may detect zones.
	2.7	e		<i>A number of my customers have expressed their concern that the 2s gesture may be too long, and that pedestrians may assume that the unit is not working, and therefore press the button instead.</i>	The gesture should be programmable in the range of 0.5 to 3 seconds.	<b>Agreed</b> that 2s is too long. Re-word to read “The gesture has been present for 1 second. Gestures of less than 0.5 second duration are to be ignored”.

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	2.7		ge	<i>Our requirement would be the actuation of the contactless source must be in the same location as existing manual operated push button</i>	Conversion of manual push button operation to non contact actuation	See previous comment above on same topic. <b>Not Agreed:</b> No text change required
	2.7 c)	C	te	<i>In view of the change suggested for 2.7 b) the text of this paragraph would need amending to account for the 70mm range</i>	<i>A gesture may be detected when presented within 0mm to 70mm and 200mm to 300mm from the pedestrian unit</i>	As noted above the wording of 2.7 conveys the concept of must detect, may detect and must not detect zones/positions. All the criteria of 2.7 have to be met to achieve compliance. The may detect zones provide for tolerance/hysteresis in sensor performance. <b>Not Agreed:</b> No text change required but a diagram will be added to clarify.
	2.7 g)	g	te	<i>A maximum beam angle for both radar and laser based sensors should be inserted and be restricted to a maximum beam angle of 52°. The reason for this is shown in the attached document '<b>Sensor Beam Angles</b>' in detail but to summarise it, a sensor with a beam angle of 52° will give a</i>	<i>The product shall have a sensor beam angle of no greater than 52°, irrespective of the sensing distance of the sensor.</i>	This comment appears to have misunderstood the must/may/must not detection zone concept. Also, the specification is technology agnostic and .7 d) requires the gesture to be

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				<p><i>detection beam width at 300mm of 300mm and at 200mm will be 200mm, which is the same width as the pedestrian crossing demand unit.</i></p> <p><i>If the beam angle is increased to 90° then at 300mm the beam width will be 600mm With a beam angle of 120° the beam width will be 1040mm which could be triggered by a pedestrian walking by.</i></p> <p><i>At 170° which is a common angle for radar units, due to their aim of providing broad detection, the detection range at 300mm is 9.14 metres which could cause the unit to trigger in the presence of both pedestrians and vehicles passing by.</i></p> <p><i>As the detection beam pattern is cylindrical the unit would need to be mounted at a height of 4.5m to avoid contact with the ground. The same applies for the smaller angled beam patterns, which with anything in excess of 52° could be triggered by a dog walking past due to the height that the push button unit is mounted.</i></p>		<p>within 300mm of the pedestrian units, so negating the issues of beam angles outlined in the comment.</p> <p><b>Not Agreed:</b> No text change required.</p>

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	2.8		te	<i>Are we sure Bluetooth devices from, say passing vehicles, would not trigger a demand ?</i>	Review Bluetooth operation.	<b>Agreed:</b> To remove the Bluetooth reference and to strengthen clause 2.9 to ensure that the activations are only able to be received from valid sources and not (for example) by emission sources within passing vehicles.
	2.8 d)	D	te	<i>The remote activation has been present for between 1 and 2 seconds. Atmospheric conditions may sometime affect a radio transmission and therefore an extended period may in some circumstances be required. Extending the time in the specification should have no detrimental effect on the specification.</i>	<i>The remote activation has been present for between 2 and 4 seconds</i>	It seems unlikely that atmospheric conditions will affect any communications (given the maximum range permitted here is only 4M) but discussion has concluded that the response time should be quicker than currently defined. <b>Agreed</b> to modify clause to require just a minimum of 0.5 seconds and a maximum of 1 second.

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	2.8 f)	F	te	<i>A demand should be physically presented by a user and not automatically presented by merely being in the vicinity of the product/sensor, which could put in a demand from a distance away or by someone not intending to use the crossing, but merely walking past.</i>	A demand should be physically presented by a user and not automated to operate in the vicinity of the crossing.	<b>Agreed</b> Possibly already covered but add a new subclause to explicitly require that the remote demand must be explicitly requested by a user and not originate just because the remote transmitter is in the vicinity of the crossing.
	2.10		te	<i>The products should be able to be powered with either 24V or 48V AC or DC. There may be situations where a pedestrian push button unit only has a 240V supply to it and therefore the option to run 24V or 48V AC or DC from a power supply or transformer may be preferable.</i>	The Product shall be capable of being powered by any standard 24V - 48V AC or DC ELV supply provided by TOPAS 2500 compliant controllers, as defined in TOPAS 2523	For safety reasons 230Vac (LV) is not permitted in push button units (although it is understood that some legacy units may still be installed). 2.4 covers this. 24V is the standard available external supply (for detectors etc) and this should be the supply to the unit. 48V is not typically present except as a drive voltage for the signals and connection to the signal drives is explicitly not permitted. <b>Not Agreed:</b> No text change required.



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	2.11		te	<i>If the above is accepted in terms of power, then para 2.11 needs to reflect this and state 24V – 48V supplies</i>	Where 24V – 48V supplies are brought into any pedestrian demand or display unit, the cables and connectors used shall ensure that faulty wiring, caused for example by a poor or disconnected joint, does not expose the 24V - 48V supply, allowing it to potentially come into contact with any pedestrian signal connection within the unit.	<b>Not Agreed:</b> No text change required as 24V is the required supply (see above).
	2.12		te	<i>There may be legitimate reasons for connecting to the Red Symbol, Green Symbol, audible or tactile unit drives for the use of feedback circuits and interlocks to determine as to what status the traffic lights are at. It is assumed that the reason for no connection is to avoid the risk of inaccurate Lamp Monitoring in the event of a lamp failure leading to the inability to be warned of a lamp fault. If this is the case then it</i>	No connection shall be made to any pedestrian indicator signal, including the red symbol, green symbol, demand accepted indicator, audible or tactile unit drives that would interfere with the normal operation of, or monitoring of the units that these	It's not clear why such connections would ever be necessary for the simple non-contact pedestrian demand Products covered by this specification and the requirement to provide connection to these signals is beyond its scope.  As well as possibly interfering



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				<i>should be worded accordingly, and provided it could not interfere with the circuits then there should be no reason why connections can not be made when required.</i>	connections are intended for.	with lamp monitoring systems, a key reason why such connections are excluded in this specification is that faults within the product, or even its normal operation might give rise to extraneous voltages being applied to the signals, which would cause a correspondence fault, resulting in a controller shut down. To facilitate such connections the Product would have to be considered as part of the safety system in the Controllers FMA, which is well outside of the scope of this specification. <b>Not Agreed:</b> No text change required.
	2.13		te	<i>The way that some systems may have been developed to operate is on a normally open basis across the push button. It is not feasible to expect it to go closed circuit in the event of a power failure to the unit as</i>	In the absence of power the product shall remain in its non-active state if connected in parallel with an existing mechanical switch, but shall	There is a trade-off between the ability of the traffic controller to recognise a fault (or loss of power to the Product) and for this to be

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				<i>that would put in a permanent demand which is not desirable as this is not what happens with the mechanical push button. I don't think there is any reason to have anything happen in the absence of power other than to remain in its non-active state.</i>	insert a permanent pedestrian demand via the demand insertion interface defined in sections 2.14 to 2.16. if not connected in parallel with an existing mechanical switch	<p>signalled quickly to maintenance organisation, versus the possibility that such a fault will put in a permanent demand, causing the crossing to be activated frequently, possibly disrupting traffic.</p> <p>If the Product is connected in parallel with an existing pushbutton, and remains open circuit in the event of failure or loss of power to it, this condition will be masked by the activation of that pushbutton and will therefore probably never be detected by the controllers Detector Fault Monitoring system. It will then only be reported as faulty by a member of the public when they can't use the facility, which is not considered desirable.</p> <p>It is technologically simple to achieve the desired</p>

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						<p>functionality by using a normally closed output device and driving it 'open', allowing it to naturally close for detect or under fault conditions. This design approach also ensures that under loss of power the output will always apply a demand to the system.</p> <p><b>Not Agreed:</b> No text change required.</p>
	2.16		te	<p><i>Depending upon the configuration of the pedestrian demand unit, the pushbutton may be connected as normally open or normally closed, therefore the connection made with the pushbutton would either be in parallel or series. The specification should reflect this.</i></p>	<p>Insertion of demands may be via an independent input to the controller or via a connection in parallel or series with the standard pushbutton within the pedestrian demand unit.</p> <p>Systems must be capable of providing both parallel and series connections to enable connection in all circumstances.</p>	<p>To be complaint with TOPAS 2523 pushbutton inputs are required to be normally open and closed to insert a demand. (This requirement derives from the original 2005 version of TR2523 and allows multiple push buttons to be connected in parallel with one another if required). With this arrangement serial connection of the push button and the Product is not workable as</p>

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						<p>both would have to be simultaneously be active for a demand to be inserted.</p> <p>Although it is possible that some crossing may have used the 'reverse' logic where the pushbutton was normally closed and 'open' to indicate a demand after consideration it was agreed that this TOPAS specification does not need to cater for equipment which is 15 or mor years old.</p> <p><b>Not Agreed:</b> No text change required.</p>
	2.18		te	<p><i>In the event of an operational failure the product should remain in its non-active state so as to not interfere with the operation of the traffic signals.</i></p> <p><i>The mechanical pushbutton isn't expected to insert a permanent demand in the event</i></p>	In the event of any operational failure the product shall remain in its non-active state if connected in parallel with an existing mechanical switch, but shall insert a permanent	The consensus is that this device is not a simple pushbutton, but an active intelligent device and should be able to detect if it is faulty and it is easy to design a Product that will give a permanent demand on failure

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				<i>of an operational failure and as these products are merely electronic switches they should not be expected to do anything different.</i>	pedestrian demand via the demand insertion interface defined in sections 2.14 to 2.16. if not connected in parallel with an existing mechanical switch	(see previous comment).  <b>Not Agreed:</b> No text change required.
	2.24		te	<i>This paragraph should have a 'Note' as per 2.25, requiring that no additional testing is required, if the manufactured unit conforms to the relevant specifications.</i>		<b>Not Agreed:</b> as there are potentially additional tests required – see later text against clause 2.24.
	2.26		ge	<i>Falling leaves / snow may be a particular issue.</i>	“... by adverse ambient / weather conditions including falling snow and leaves.”	<b>Agreed.</b> Add leaves and snow to the document.
	2.24			<i>There is a need to undertake additional EMC testing if the Product is an intentional radio transmitter.</i>		<b>Agreed:</b> Add “Where the Product is an intentional radio transmitter it shall comply with Radio Equipment Directive and be tested to the requirements of IR2030, and the relevant additional tests defined in BS EN 301489-3”.

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	2.29		ge	<i>This clause should be removed as it has the potential for a manufacturer to block a third party from installing a TOPAS compliant product in the manufacturers equipment, possibly in favour of their own version of the product. This clause could mean that a Local Authority would ignore the TOPAS spec as it is only a buying guide and not mandatory, whereas the rest of the spec is relevant to the products.</i>	Section 2.29 of the specification be removed	<b>Agreed to remove the clause.</b>
	??			<i>What are the problems with using the red man as a power source. If the controller doesn't have lamp monitoring and the consumption is say 10 ma then I can't see what the problem would be. Saves running two extra wires to the pbu.</i>		See previous comments against clause 2.12.
	??			<i>Voltage spec should be 48v</i>		See previous comments against clause 2.10.

END