british security industry association

a summary of

the changes to EN50131-1

– a guide

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1. Introduction

The industry application of PD6662: 2004 caused EN 50131-1 to be mandated for the first time in the UK. This took the form of the draft standard prEN50131-1: 2004. With the updating of PD6662 to the 2009 version, EN 50131-1: 2006 including Amendment 1 is now to be used. In the five years between the versions EN 50131-1 has been subject to a number of changes that are described in this document.

2. 'Operating' or 'functioning'

Throughout the standard there has been a rationalisation of the use of the words 'operating' and 'functioning' (along with 'operational', etc). Although in English these words have very similar meanings some non-English countries wished to have greater clarification. The difference between the two is most clearly demonstrated by clause 8.6 where 'operation of a WD' means that the warning device is sounding, whereas 'functioning' means that the equipment is working as intended – it is ready to make a sound but has not been told to. These changes are not indicated in the list of changes below.

3. Mark-up of the document

In the British Standard BS EN 50131-1:2006 + A1: 2009 changes from the 2006 version to the 2009 amendment are highlighted. The changes listed below include the earlier changes from the 2004 draft to the 2006 version.

4. Key to table

The summary has been undertaken in a clause-by-clause basis where there are changes. This will give an easy reference to those reading this guideline.

prEN 50131-1: 2004 Clause ref	EN 50131-1: 2006 Amdt 1 Clause ref	Content change detail
	0	**INTRODUCTION** Some minor rephrasing has not fundamentally changed the meaning of the introduction.
1	**1**	**SCOPE** The phrasing of the NOTE has been changed without affecting the meaning.
2	**2**	**NORMATIVE REFERENCES** The list of referenced standards has been updated to the latest applicable versions.
3	**3**	**TERMS AND DEFINITIONS**
3.1.11	3.1.11	**Alarm transmission system** – The definition has expanded the meaning of the term to cover all information, not just status, transmitted from an I&HAS.
3.1.15	3.1.15	**Application** – Some minor rephrasing has not fundamentally changed the definition.
3.1.16	3.1.16	**Authorisation** – The definition now limits the use of the term to the control functions.
3.1.17	3.1.17	**Authorisation codes** – The term 'mechanical keys' has replaced 'physical keys' throughout the standard to harmonise with EN 50131-3 and improve clarity.
3.1.19	3.1.19	**Component substitution** – The term 'operating' has been replaced by 'functioning'.
3.1.24 & 3.1.25	3.1.24 & 3.1.25	**Event** and **event recording** – The definitions have been expanded to include conditions that naturally arise during the functioning of the system (e.g. low battery) as well as conditions resulting from user interaction (e.g. setting).
3.1.32	3.1.32	**Inhibit** – The word 'unset' has been replaced by a phrase with the same meaning that is clearer when translated.
3.1.33	3.1.33	**Interconnection** – The word 'transmitted' has been changed to 'communicated' to avoid confusion with transmission to the ARC.
3.1.41	3.1.41	**Isolation** – By deleting the word 'manually' the isolation status can be removed by a consequence of user action (e.g. setting the system).

3.1.43	3.1.43	**Message** – The term 'network' has been replaced by 'interconnections'. This indicates that the message is internal to the I&HAS rather than being related to the alarm transmission system.
3.1.50	3.1.50	**Override** – The definition has been changed so that the term relates to any conditions preventing the setting of the system and not just faults**.**
3.1.51	3.1.51	**Part set** – The definition has been improved but the intended meaning is unchanged.
3.1.54	3.1.54	**Power supply** – It is now clarified that a power supply does not need to supply the entire I&HAS.
3.1.55	3.1.55	**Prime power source** – The word 'working' has replaced 'operating'.
3.1.61	3.1.61	**Significant reduction of range** – The definition now refers to the applicable clause in TS 50131-7.
3.1.64	deleted	**Specified range** – The term, used only in 3.1.61, has been deleted.
3.1.66	3.1.65	**Subsystem** – In addition to 'operation' being changed to 'functioning' the definition now refers to an 'area' of the premises rather than a 'part'.
3.1.68	3.1.67	**Supplementary prime power source (SPPS)** – The definition now clarifies that this is independent of the Prime Power Source (PPS). So if the PPS is the mains supply, the SPPS cannot also be the mains supply.
3.1.69	deleted	**System attributes** – The term has been deleted.
3.1.70	3.1.68	**System components** – The word 'make' has been replaced by 'constitute'.
new	3.1.69	**Supervised premises transceiver** – This is a new term describing the communication equipment connected to the I&HAS that provides remote notification to the ARC.
3.1.78	3.1.77	**Transmission path** – The term has been clarified as the path (or one of the paths) from the I&HAS to the ARC (or ARCs).
3.1.80	3.1.79	**Unset** – This definition now includes hold-up alarms.
3.1.83	3.1.82	**Warning device (WD)** – The definition has changed and now includes by way of a note, information that if the WD indicates alerts then this must be clearly different from the alarm condition.
3.1.84	3.1.83	**Wire-free interconnection** – The definition has been shortened but with no effect on the system requirements.
3.1.85	3.1.84	**Zone** – The definition has been expanded to provide better clarification.

3.2	**3.2**	**ABBREVIATIONS** The abbreviation for SPT (Supervised Premises Transceiver) has been added.
4	**4**	**SYSTEM FUNCTIONS** It is now clarified that the 'functions' are those referred to be the standard and the I&HAS according to its configuration.
5	**5**	**SYSTEM COMPONENTS** The standard now makes clear (in paragraph two) that the components shall be compatible within the installed systems rather than compatible with all I&HAS.
6	**6**	**SECURITY GRADING** Paragraph four is new and clarifies the position regarding requirements applicable to equipment providing features that are optional for the grade of the component (e.g. if a grade 2 detector includes a feature required only for grade 3 or 4).
7 7.3	**7** 7.3	**ENVIRONMENTAL CLASSIFICATION** Environmental Class III – To harmonize the description within the EN 50131 and EN 50131 range of standards, class III is now described as 'Outdoor – Sheltered or indoor extreme conditions'. The requirements for Environmental Class III have not changed, it is only the description. This emphasises that some indoor environments may need class III equipment.
8 8.1 8.1.1 Table 1	**8** 8.1 8.1.1 Table 1	**FUNCTIONAL REQUIREMENTS** Detection of intruders, triggering, tampering and the recognition of faults. The phrase 'as appropriate' is now clarified by the addition of 'to its configuration' and a note explaining about separate IAS and HAS functionality (replacing several previous notes elsewhere in the standard). **Intruder detection** – The sentence previously requiring detectors to have 'a high probability of detection' has been rephrased to 'maximise the detection of genuine intrusion'. **Faults** – An additional requirement is included that if an I&HAS should have more than one alarm transmission system then 'a fault on any ATS shall be recognised'. (For 'ATS' read 'transmission path'). The 'other faults' are clarified as being those specified by component standards.

8.3	8.3	**Operation** – The note about part or zone setting has been deleted.
8.3.1	8.3.1	**Access levels** – The introductory sentence has been rephrased so that it is no longer mandatory to have four access levels. The main reason for this is the lack of an access level four in the majority of systems. A note explaining the use of access level 4 has been added in the description of level 4. The section about preventing or permitting access to users at level 3 and 4 has been completely rewritten. The method of authorisation of prEN 50131-1: 2004 is still valid but additional methods not requiring implicit authorisation by a level 2 user has been added. These make use of the sounding of a warning device (and remote notification) in certain limited situations to inform relevant individuals that the level 3 user is accessing the system. This method is traditional in some countries and allows for the installer to access the system whilst non-alarm users are on-site (e.g. the manager of a shop unsets the alarm in the morning but only a sales assistant is present when the installer arrives).
Table 2	Table 2	**Levels of access** – The terms 'setting' and 'unsetting' are now used to improve clarity. A specific allowance is given for access level 1 users to set the system (see 8.3.4). Access level 2 users (most likely a limited number of them) can now add/delete level 2 users and codes. The new note 3 permits the system to operate differently when first installed to allow for the installer to commission the system.
8.3.2	8.3.2	**Authorisation** – The note about the owner having absolute authority has been deleted. The paragraph and note about level 3 users adding and deleting level 2 users and codes has been removed (it duplicated the requirements of 8.3.1).
Table 3	Table 3	**Authorisation code requirements** – The term 'physical key' has been changed to 'mechanical key'. The number of differs required for mechanical keys are reduced in grades 2, 3 and 4.
8.3.3	8.3.3	**Setting and unsetting** – There has been some rewording of the last paragraph to clarify the meaning.
8.3.4	8.3.4	**Setting** – The standard now permits a setting indication (as is common practice and required by BS 8243 in some circumstances). A new method of setting the system by use of a pushbutton and without an access code or proximity tag is now permitted at grade 1 only. This method cannot be used to unset the system and is not permitted under BS 8243.
8.3.5	8.3.5	**Prevention of setting** – The ability to override prevention of setting (as per 8.3.6) is now specifically stated.

Table 4	Table 4	**Prevention of setting** – 'Detector fault' is now limited to intrusion detector fault and a new row has been added for warning device fault.
Table 5	Table 5	**Overriding of prevention of setting** – The word 'access' appears throughout the table to clarify the meaning of 'level'. The 'OP' for optional has been removed from the few places it appeared (because everything in the table is optional) – the text says 'may be overridden'. A new row has been added for warning device fault. 'ATE' has been corrected to 'ATS' in footnote 'b'.
8.3.7	8.3.7	**Set state** – To avoid confusion with a permanent indication of the set state, the phrase 'transitory indication' has been replaced by 'time limited completion of setting indication'. This is also referenced in Table 8, Table 9 and 8.5.3. The text containing the options in 8.3.7 has been significantly changed to correct errors but this was not intended to alter the meaning.
8.3.8	8.3.8	**Unsetting**
8.3.8.1	8.3.8.1	**Unsetting - general** – The note previously in 8.3.8.1 has been deleted because it duplicated the one in 8.3.8.2.
8.3.8.2	8.3.8.2	**Unsetting - as specified in 8.3.7 b)** – Significant sections of the text have changed. An indication of entry is now required. The fundamental changes are: a) The 30 second delay in transmission of an alarm to the ARC does not now apply in circumstances where the entry timer expires without other alarm conditions, and b) If there is a stray from the entry route then the alarm should be notified or indicated immediately (rather than waiting for the end of the entry time).
Table 6	Table 6	**Restoring** – The table now includes specific requirements for Prime Power Source faults, ATS faults, masking and significant reduction of range.
8.3.11	8.3.11	**Isolate** – The text 'operation of' has been deleted before 'individual or groups of functions'.
8.3.13	8.3.13	**Other operations** – The second paragraph of the prEN 50131-1: 2004 version has been deleted (because it was self-contradictory).

8.4	**8.4**	**PROCESSING** Changes to the text are editorial and not significant.
Table 7	Table 7	There are some minor changes to the table. 'WD' has been replaced by 'audible alarm' but this has little effect. The explanatory note for 'I&HAS status' (which was missing) explains that the status relates to the relevant part of the system. It is no longer necessary to send the address of a hold-up alarm (which was previously unexplained) to the ARC. A new note permits external WD to self-activate in conditions where the WD is tampered or not connected to the CIE.
8.5	**8.5**	**INDICATIONS**
8.5.1	8.5.1	**General** – There have been some minor editorial changes to the text, particularly the notes. An additional paragraph gives requirements relating to the indication of alarm transmission faults. If an I&HAS should have more than one alarm transmission system then a fault on any ATS [path] should be indicated.
Table 8	Table 8	**Indication** – Some additional rows have been added for more indications: • Detector alarm condition • Setting (as per 8.3.4) • Completion of setting (as per 8.3.7) • Entry indication (as per 8.3.8.2) • Completion of unsetting (as per 8.3.8.2) Several of these have associated notes. One change to the existing rows is that it is now noted that range reduction detection may use the same indication as masking detection.
8.5.2	8.5.2	**Availability of indications** – The opening paragraph has been completely rephrased to improve understanding of the relationship between Table 8 and Table 9.
Table 9	Table 9	**Indications available during set and unset status at access level 1** – As for table 8, some additional rows have been added for more indications: • Detector alarm condition • Setting (as per 8.3.4) • Completion of setting (as per 8.3.7) • Entry indication (as per 8.3.8.2) • Completion of unsetting (as per 8.3.8.2)

		Several of these have associated notes. Additional clarification is given about the relationship between the set and unset indications and clause 8.3.7 and that these are optional if the system is part set. Indications are not required for functions not provided.
8.5.3	8.5.3	**Cancelling indications** – The indications now defined as time limited (e.g. setting, unsetting) previously appeared to require user cancellation. This is now clarified as not being necessary. A new note explains use of the alert indication.
8.5.4	8.5.4	**Indication - intrusion detectors** – There is now a reference to table 8.
8.6	8.6	**NOTIFICATION** The first paragraph has been reworded and now includes some text that previously was found later in the clause. There are no substantial changes. The reference to EN 50136 is now to EN 50136-1-1 and 'devices to impair vision' is explained by the example of 'fog generating device' (the European standard name for a smoke generator). An introductory paragraph has been added for table 11 together with notes referring to Annex B and the fact that 'availability' is not used by EN 50131-1.
Table 10	Table 10	**Notification requirements** – The basic requirements are not changed but the notes have been altered. Notes 3, 4 and 5 are new. These recommend that transmission paths are independent and use differing technologies if two ATS are required; that an SPT may be part of more than one ATS; and that the performance requirements for a second ATS remain constant even if the primary ATS is not available.
8.7	**8.7**	**TAMPER SECURITY**
8.7.2	8.7.2	**Tamper detection** – The second paragraph from prEN 50131-1: 2004 is now to be found within table 12 (the lack of reference to grades 1 and 2 is irrelevant – see below).
Table 12	Table 12	**Tamper detection – components to include** – In addition to portable hold-up devices, portable ACE are excluded from the requirements of table 12. Tamper detection of grade 2 junction boxes is now optional.
Table 13	Table 13	**Tamper detection – means to be detected** – The necessity to provide penetration detection to WD, CIE, ACE and SPT is now restricted to those located outside the supervised premises (and without reference to the environmental classification previously used). Detector orientation adjustment detection is now required only for detectors with orientation adjustment. The requirements for removal for mounting detection now apply to wired components but vary depending on the use of wire-free or wired interconnection.

8.7.3	8.7.3	**Monitoring of substitution** – Previously substitution detection when unset required generation of a fault signal. It is now rationalised with detection during set and therefore requires a tamper signal to be generated.
8.8	**8.8**	**INTERCONNECTIONS**
8.8.1	8.8.1	**General** – The clause now clarifies that the minimization of signal delay, modification or substitution is by complying with the standard. The detection of availability problems is linked to clause 8.8.3 as well as 8.8.2.
8.8.3	8.8.3	**Monitoring of interconnections** – Clause 8.8.3 now does not apply to portable hold-up devices and portable ACE. Although the text has been reworded and re-ordered the other requirements are unchanged.
8.8.4	8.8.4	**Verification**
8.8.4.1	8.8.4.1	**Interconnection integrity** – Periodic communication. The alternatives described in a) and b) are unchanged but the descriptions have been rephrased to improve understanding.
8.8.5	8.8.5	**Security of communication** – The text has been changed so that it no longer conflicts with Table 19. The requirement therefore applies to grade 4 I&HAS only.
Table 20	Table 20	**Signals or messages to be generated** – An additional note highlights that the signals are only required if the clauses referenced in the table make the generation mandatory.
8.9	**8.9**	**I&HAS timing performance** There are no changes.
8.10	**8.10**	**EVENT RECORDING** It is now made clear that remote means of recording shall comply with the requirements of table 21. There has been a change to the requirement related to the number of events recorded from a single source. This was previously 3 during a set period but is now a minimum of 3 and maximum of 10 during any set or unset period.
Table 22	Table 22	**Event recording - events to be recorded** – A new row has been added giving requirements for Detection of Substitution. The recording of 'overriding of prevention of setting conditions' is now mandatory for grade 2. The term 'user keys' has been changed to 'user identity' with the addition of 'when possible'. The intention of this is that if the technology used can determine the user (e.g. a PIN or proximity tag) then the user identity associated should be recorded, whereas if the system uses a mechanical key then this is not possible.

9 **9.1**	**9** **9.1**	**POWER SUPPLY** **Types of power supply** – EN 50131-1 now specifies that power supplies must comply with EN 50131-6. The word 'replenished' has been replaced by 'recharged'. A new note about type C power supplies is intended to prevent unscrupulous persons attempting to circumvent the necessary storage time requirements by claiming two batteries as a type B power supply. Other textual changes are not significant.
10	**10**	**Operational reliability** – There are no significant changes.
11	**11**	**Functional reliability** – There are no significant changes.
12	**12**	**Environmental requirements** – There are no significant changes.
13	**13**	**Electrical safety** – There are no changes.
14	**14**	**Documentation** – There are no changes.
15	**15**	**Marking / identification** – It is now required that the standard to which a component claims compliance is marked on it.
Annex A	**Annex A**	**Special national conditions** – There are no significant changes.
Annex B	**Annex B**	**Alarm transmission system performance criteria** – Table B.4 covering 'availability' has been deleted ('availability' is not included as a requirement by EN 50131-1).