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ISO/IEC 18033-3

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Information technology — Security techniques — Encryption algorithms —

Part 3: Block ciphers

Technologies de l'information — Techniques de sécurité — Algorithmes de chiffrement

Partie 3: Chiffrement par blocs

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 18033-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 27, *IT Security techniques*.

This second edition cancels and replaces the first edition (ISO/IEC 18033-3:2005), which has been technically revised. It also incorporates the Technical Corrigenda ISO/IEC 18033-3:2005/Cor.1:2006, ISO/IEC 18033-3:2005/Cor.2:2007 and ISO/IEC 18033-3:2005/Cor.3:2008.

ISO/IEC 18033 consists of the following parts, under the general title *Information technology — Security techniques — Encryption algorithms*:

— *Part 1: General*

— *Part 2: Asymmetric ciphers*

— *Part 3: Block ciphers*

— *Part 4: Stream ciphers*

Information technology — Security techniques — Encryption algorithms —

Part 3: Block ciphers

1 Scope

This part of ISO/IEC 18033 specifies block ciphers. A block cipher maps blocks of *n* bits to blocks of *n* bits, under the control of a key of *k* bits. A total of seven different block ciphers are defined. They are categorized in Table 1.

Table 1 — Block ciphers specified

Block length	Algorithm name (see #)		Key length
64 bits	TDEA	(4.2)	128 or 192 bits
	MISTY1	(4.3)	128 bits
	CAST-128	(4.4)	
	HIGHT	(4.5)	
128 bits	AES	(5.2)	128, 192 or 256 bits
	Camellia	(5.3)	
	SEED	(5.4)	128 bits

The algorithms specified in this part of ISO/IEC 18033 have been assigned object identifiers in accordance with ISO/IEC 9834. The list of assigned object identifiers is given in Annex B. Any changes to the specification of the algorithms resulting in a change of functional behaviour will result in a change of the object identifier assigned to the algorithm.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
block
string of bits of defined length

NOTE In this part of ISO/IEC 18033, the block length is either 64 or 128 bits.

[ISO/IEC 18033-1:2005]

2.2
block cipher
symmetric encipherment system with the property that the encryption algorithm operates on a block of plaintext, i.e. a string of bits of a defined length, to yield a block of ciphertext

[ISO/IEC 18033-1:2005]