



ZKSoftware



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco®

Doc No.	
Date	

PULL Data Dictionary V1.0.0 of the New Firmware

Prepared By: Zhang Li

Date: 2013-09-06

Reviewed By:

Date:

Approved By:

Date:



ZKSoftware



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

Change History

Changed By	Date	Version	Page	Description	Effective Date



ZKSoftware



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco®

Contents

1 Introduction	4
1.1 Purpose	4
2 Data Dictionary.....	5
2.1 User Information [user]	5
2.2 Algorithm 9.0-based Fingerprint Template [fptemplate09]	7
2.3 Algorithm 10.0-based Fingerprint Template [templatev10].....	7
2.4 Attendance Data [transaction].....	8
2.5 Work Code [workcode].....	9
2.6 SMS Message [sms]	9
2.7 User-specific SMS Message [usersms].....	10
2.8 Time Zone for Access Control [acctimezone]	10
2.9 Access Control Group [accgroup].....	10
2.10 Holiday Time Zone [accholiday]	11
2.11 Unlock Combination for Access Control [accunlockcomb]	11
2.12 Function List [funclist]	12
2.13 Status Information List [statekey].....	12
2.14 Time List [statetimezone]	13
2.15 State Change Time [statelist]	13
2.16 Shortcut Function List [keyfunc]	14
2.17 HID Card Format Information [HID_FORMAT]	15
2.18 Operation Log Information [oplogs].....	16



ZKSoftware



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

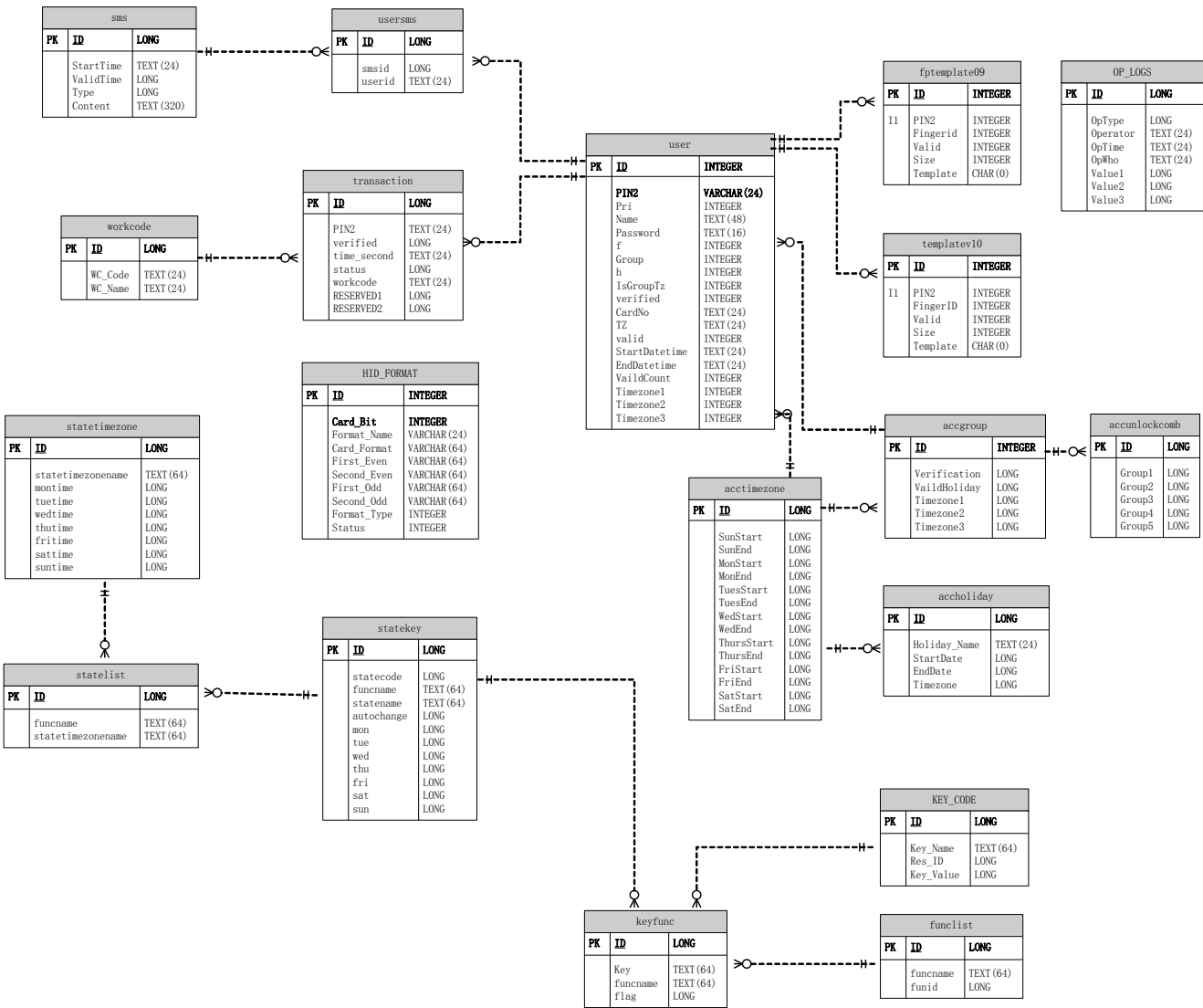
ZKTeco®

1 Introduction

1.1 Purpose

This document is to serve as a data dictionary for business development and a basis for business logic code development.

2 Data Dictionary



2.1 User Information [user]

Table Name	user			
Description	This table stores basic information of users.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	User ID	INTEGER	Primary key	This field is a self-increasing field, and is used as a foreign key for other data tables.



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

PIN2	Personal identification number (PIN) of a user	VARCHAR(24)	Unique	This field is used for attendance check, and supports letters.
Pri	User permission	INTEGER		This field specifies the user permission. By default, you can set this field to a common user or a super administrator. You can also define a user in the permission management module. Value options are as follows: 0 : common user 14 : super administrator
Name	User name	VARCHAR(48)		A user name contains a maximum of 24 bytes. Note: UTF-8 coding is used for Chinese names.
Password	User password	VARCHAR(16)		A password contains a maximum of 8 characters.
f	Face group	INTEGER		This field specifies the face group that a user belongs to.
Group	Access control group	INTEGER		This field specifies the access control group that a user belongs to. The default value is 1 .
h	Department ID	INTEGER		This field specifies the department that a user belongs to. The default value is 1 .
IsGroupTz	Use the time zone of an access control group or not	INTEGER		Value options are as follows: 1 : yes 0 : no The default value is 1 .
verified	User verification mode	INTEGER		Value options are as follows: -1 : verification mode used by the group that the user belongs to 0 : fingerprint, password, or card 1 : fingerprint 2 : PIN 3 : password 4 : card 5 : fingerprint or password 6 : fingerprint or card 7 : password or card 8 : PIN and fingerprint 9 : fingerprint and password 10 : fingerprint and card 11 : password and card 12 : fingerprint, password, and card 13 : PIN, fingerprint, and password 14 : fingerprint and card, or fingerprint and PIN The default value is 0 .
CardNo	Primary card	VARCHAR(24)		
TZ	Standby card	VARCHAR(24)		
valid	User validity mode	INTEGER		Value options are as follows: 0 : This function is disabled. 1 : by time zone 2 : by use times 3 : by the time zone and use times



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

				The default value is 0 .
StartDatetime	Start date of the validity period	VARCHAR(24)		The default value is 0 .
EndDatetime	End date of the validity period	VARCHAR(24)		The default value is 0 .
VaildCount	Count of valid use	INTEGER		The default value is 0 .
Timezone1	Time zone	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 1 .
Timezone2	Time zone	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 0 .
Timezone3	Time zone	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 0 .

2.2 Algorithm 9.0-based Fingerprint Template [fptemplate09]

Table Name	fptemplate09			
Description	This table stores fingerprint data that is collected based on algorithm 9.0.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Fingerprint ID	INTEGER	Primary key	This field is a self-increasing field.
PIN2	Fingerprint number	INTEGER		For the value range of this field, see the user ID in the user table.
FingerID	Fingerprint ID of a user	INTEGER		This field specifies the fingerprint ID of a user. The value ranges from 0 to 9.
Size	Fingerprint size	INTEGER		The fingerprint size of plus six equals the value of this field. The old firmware is compatible.
Valid	Fingerprint validity	INTEGER		Value options are as follows: 0 : invalid 1 : valid 3 : forcible
Template	Fingerprint template	BLOB		The fingerprint template is saved in binary mode.

2.3 Algorithm 10.0-based Fingerprint Template [templatev10]

Table Name	templatev10			
Description	This table stores fingerprint data that is collected based on algorithm 10.0.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Fingerprint ID	INTEGER	Primary key	This field is a self-increasing field.



ZKAccess



ZKBioblock



ZKiVision



ZKAFIS

ZKTeco[®]

PIN2	Fingerprint number	INTEGER		For the value range of this field, see the user ID in the user table.
FingerID	Fingerprint ID of a user	INTEGER		This field specifies the fingerprint ID of a user. The value ranges from 0 to 9.
Size	Fingerprint size	INTEGER		The fingerprint size of plus six equals the value of this field. The old firmware is compatible.
Valid	Fingerprint validity	INTEGER		Value options are as follows: 0 : invalid 1 : valid 3 : forcible
Template	Fingerprint template	BLOB		The fingerprint template is saved in binary mode.

2.4 Attendance Data [transaction]

Table Name	transaction			
Description	This table stores user attendance data, including the attendance time, status, and verification type.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Attendance record ID	INTEGER	Primary key	This field is a self-increasing field.
PIN2	PIN of a user	VARCHAR(24)		For the value range of this field, see the user PIN in the user table.
verified	Verification type	INTEGER		Value options are as follows: 0 : password 1 : fingerprint 2 : card 3 : PIN 5 : PIN and card 6 : password and card 7 : fingerprint, password, and card 9 : PIN and fingerprint 10 : fingerprint and password 11 : PIN, fingerprint, and password 12 : fingerprint and card 13 : PIN and fingerprint 14 : fingerprint, password, and card 15 : PIN, fingerprint, password, and card
time_second	Verification time	VARCHAR(24)		This field specifies the verification time. The time uses the ISO8601 format YYYY-MM-DDThh:mm:ss.
status	Attendance status	INTEGER		For the value range of this field, see the statecode field in the statekey table. 0-250 : normal attendance records 252 : attendance records saved in unauthorized time zones 253 : attendance records with unauthorized unlock combinations 254 : attendance records in which the user



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

				exists but is invalid 255 : no attendance records
workcode	Work code	INTEGER		For the value range of this field, see the ID field in the workcode table.
RESERVED1	Number of the fingerprint reader	INTEGER		This field is reserved for future use.
RESERVED2	Attendance record flag	INTEGER		This field is reserved for future use.

2.5 Work Code [workcode]

Table Name	workcode			
Description	This table stores information related to the work code, including the code and code name. Such information is used to differentiate work types.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Work code ID	INTEGER	Primary key	This field is a self-increasing field.
WC_Code	Work code value	VARCHAR(24)		
WC_Name	Work code name	VARCHAR(24)		

2.6 SMS Message [sms]

Table Name	sms			
Description	This table stores information related to SMS messages.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	SMS message ID	INTEGER	Primary key	This field specifies the SMS message ID.
StartTime	Start time for validating an SMS message	VARCHAR(24)		The time uses the ISO8601 format <i>YYYY-MM-DDThh:mm:ss</i> .
ValidTime	Number of valid minutes	INTEGER		Value options are as follows: 0 : permanently valid 1-65535 : number of valid minutes
Type	SMS message type	INTEGER		Value options are as follows: 0xFD : public message 0xFF : draft message 0xFE : personal message
Content	SMS message content	VARCHAR(320)		This field contains a maximum of 320 single-byte characters or 160 Unicode characters.



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

2.7 User-specific SMS Message [usersms]

Table Name	usersms			
Description	This table stores users' personal SMS messages. A user may have multiple SMS messages.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	ID of a user's SMS message	INTEGER	Primary key	This field is a self-increasing field.
smsid	ID of an SMS message	INTEGER		For the value range of this field, see the ID field in the sms table.
userid	PIN of a user	VARCHAR(24)		For the value range of this field, see the PIN2 field in the user table.

2.8 Time Zone for Access Control [acctimezone]

Table Name	acctimezone			
Description	This table stores information of the time zones for access control.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	ID of the time zone for access control	INTEGER	Primary key	This field is a self-increasing field.
SunStart	Start time on Sunday	INTEGER		The value 1159 indicates 11:59 a.m.
SunEnd	End time on Sunday	INTEGER		
MonStart	Start time on Monday	INTEGER		
MonEnd	End time on Monday	INTEGER		
TuesStart	Start time on Tuesday	INTEGER		
TuesEnd	End time on Tuesday	INTEGER		
WedStart	Start time on Wednesday	INTEGER		
WedEnd	End time on Wednesday	INTEGER		
ThursStart	Start time on Thursday	INTEGER		
ThursEnd	End time on Thursday	INTEGER		
FriStart	Start time on Friday	INTEGER		
FriEnd	End time on Friday	INTEGER		
SatStart	Start time on Saturday	INTEGER		
SatEnd	End time on Saturday	INTEGER		

2.9 Access Control Group [accgroup]

Table Name	accgroup			
Description	This table stores access control group information.			
Field	Description	Data Type	Constraint	Remarks



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

		(Length)		
ID	Group ID	INTEGER	Primary key	This field is a self-increasing field.
Verification	Group verification mode	INTEGER		Value options are as follows: 0: fingerprint, password, or card 1: fingerprint 2: PIN 3: password 4: card 5: fingerprint or password 6: fingerprint or card 7: password or card 8: PIN and fingerprint 9: fingerprint and password 10: fingerprint and card 11: password and card 12: fingerprint, password, and card 13: PIN, fingerprint, and password 14: fingerprint and card, or fingerprint and PIN The default value is 0 .
VaildHoliday	Is the holiday valid or not	INTEGER		
Timezone1	Time zone	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 1 .
Timezone2	Time zone	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 0 .
Timezone3	Time zone	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 0 .

2.10 Holiday Time Zone [accholiday]

Table Name	accholiday			
Description	This table stores time zone information, such as the start date, end date, and time zone, of holidays.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Holiday ID	INTEGER	Primary key	This field specifies the ID of a holiday.
Holiday_Name	Holiday name			
StartDate	Start date of a holiday	INTEGER		The value 401 indicates April 1.
EndDate	End date of a holiday	INTEGER		
Timezone	Time zone ID	INTEGER		For the value range of this field, see the ID field in the acctimezone table. The default value is 0 .

2.11 Unlock Combination for Access Control [accunlockcomb]

Table Name	accunlockcomb
------------	---------------



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

Description	This table stores information of unlock combinations.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	ID of an unlock combination	INTEGER	Primary key	This field is a self-increasing field.
Group1	Group ID	INTEGER		For the value range of this field, see the ID field in the accgroup table.
Group2	Group ID	INTEGER		For the value range of this field, see the ID field in the accgroup table.
Group3	Group ID	INTEGER		For the value range of this field, see the ID field in the accgroup table.
Group4	Group ID	INTEGER		For the value range of this field, see the ID field in the accgroup table.
Group5	Group ID	INTEGER		For the value range of this field, see the ID field in the accgroup table.

2.12 Function List [funclist]

Table Name	funclist			
Description	This table stores function information. Such information is used for shortcut definition and permission management. This table must be configured at the factory.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Function ID	INTEGER	Primary key	This field is a self-increasing field.
funcname	Function name	VARCHAR(64)		
funid	Function shortcut ID	INTEGER		The new firmware must be compatible with the old offline communication interface to obtain shortcut functions.

2.13 Status Information List [statekey]

Table Name	statekey			
Description	This table stores status information.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	Status ID	INTEGER	Primary key	This field is a self-increasing field.
statecode	Status value	INTEGER		
funcname	State name	VARCHAR(64)		
statename	State description	VARCHAR(64)		For example, sign-in for work.
autochange	Whether the state automatically changes	INTEGER		Value options are as follows: 0 : no 1 : yes Note: This field is affected by the global parameter StateMode .
mon	Whether the state changes on Monday	INTEGER		Value options are as follows: 0 : no 1 : yes



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

tue	Whether the state changes on Tuesday	INTEGER		
wed	Whether the state changes on Wednesday	INTEGER		
thu	Whether the state changes on Thursday	INTEGER		
fri	Whether the state changes on Friday	INTEGER		
sat	Whether the state changes on Saturday	INTEGER		
sun	Whether the state changes on Sunday	INTEGER		

2.14 Time List [statetimezone]

Table Name	statetimezone			
Description	This table stores time zone information of states.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	State time zone ID	INTEGER	Primary key	This field is a self-increasing field.
statetimezonename	State time zone name	VARCHAR(64)		
montime	Time on Monday	INTEGER		The value 1159 indicates 11:59 a.m.
tuetime	Time on Tuesday	INTEGER		
wedtime	Time on Wednesday	INTEGER		
thutime	Time on Thursday	INTEGER		
fritime	Time on Friday	INTEGER		
sattime	Time on Saturday	INTEGER		
suntime	Time on Sunday	INTEGER		

2.15 State Change Time [statelist]

Table Name	statelist			
Description	This table stores the mappings between state keys and time.			
Field	Description	Data Type (Length)	Constraint	Remarks
ID	ID of the state change time	INTEGER	Primary key	This field is a self-increasing field.
funcname	Name of a state key	VARCHAR(64)		For the value range of this field, see the funcname field in the statekey table.
statetimezonename	State time zone name	VARCHAR(64)		For the value range of this field, see the statetimezonename field in the statetimezone table.



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

2.16 Shortcut Function List [keyfunc]

Table Name	keyfunc			
Description	This table stores the functions and status of shortcut keys.			
Field	Description	Data Type (Length)	Constraint	Remarks
keyid	Shortcut key ID	INTEGER	Primary key	This field is a self-increasing field.
key	Shortcut key name	VARCHAR(64)	Unique	<p>For the value range of this field, see the Key_Name field in the KEY_CODE table. The KEY_CODE table is fixed, and cannot be configured or obtained. Information of the key field is stored in the KEY_CODE table.</p> <p>The key field has the following value options:</p> <p>F1: key F1 F2: key F2 F3: key F3 F4: key F4 F5: key F5 F6: key F6 F7: key F7 F8: key F8 up: up arrow key down: down arrow key right: right arrow key left: left arrow key ok: key Enter star: asterisk key (*) well: pound key (#) backspace: key Backspace</p>
funcname	Function or state name	VARCHAR(64)		<p>For the value range of this field, see the Funcname field in the Funclist table or State_Name field in the statekey table.</p> <p>The Funclist table is fixed, and cannot be configured or obtained. Information of the funcname field is stored in the Funclist table.</p> <p>The funcname field has the following value options:</p> <p>adduser: Add a user. userlist: user list netset: network setting serialset: serial port setting linkset: connection setting mobilenet: mobile network</p>



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

				wifiset: Wi-Fi setting admsset: ADMS setting wiegandset: wiegand setting enrollnumcard: Enroll a number card. enrollfpcard: Enroll a fingerprint card. clearcard: Clear card information. copycard: Copy card information. setcardparam: card parameters timeset: date and time attparam: attendance parameters fpparam: fingerprint parameters restoreset: Restore factory settings. udiskupgrade: USB disk upgrade displayset: display setting voiceset: voice setting bellset: bell setting shortcutsset: shortcut key setting cleardata: Clear data. backupdata: Back up data. restoredata: Restore data. udiskupload: USB disk-based upload udiskdownload: USB disk-based download attlog: attendance logs attpic: attendance picture blacklistpic: blacklist picture addsms: Add an SMS message. smslist: SMS message list addworkcode: Add a work code. workcodelist: work code list workcodesetting: work code setting datacapacity: data capacity information devinfo: device information firmwareinfo: firmware information libworkcode: work code libsms: public SMS message librecord: query of personal records libaccesscontrol: asking for help Note: Function settings must be based on the actual functions of the time and attendance application.
flag	Shortcut function flag	INTEGER		Value options are as follows: 0: state key 1: function key 100: undefined

2.17 HID Card Format Information [HID_FORMAT]

Table Name	HID_FORMAT
Description	This table stores information of HID card formats.



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

Field	Description	Data Type (Length)	Constraint	Remarks
ID	Card format ID	INTEGER	Primary key	This field is a self-increasing field.
Card_Bit	Number of bits in the card number	BYTE_T		For example, 26 and 34.
Format_Name	Format name	VARCHAR(24)		For example, wiegand26 and wiegand34.
Card_Format	Card format	VARCHAR(64)		For example, ECCCCCCCCCCCCCCCCCCCCCCC CCO. In this example: E: indicates the first even check position. e: indicates the second even check position. O: indicates the first odd check position. o: indicates the second odd check position. c or C: indicates the card number. m or M: indicates the manufacturer code (manufactureCode). f or F: indicates the facility code (facilityCode). s or S: indicates the site code (siteCode).
First_Even	First even check	VARCHAR(64)		For example, 011111111111000000000000, in which 1 indicates the data intended for even check.
Second_Even	Second even check	VARCHAR(64)		This field is reserved for future use.
First_Odd	First odd check	VARCHAR(64)		For example, 000000000000011111111110, in which 1 indicates the data intended for odd check.
Second_Odd	Second odd check	VARCHAR(64)		This field is reserved for future use.
Format_Type	Format type	INTEGER		Value options are as follows: 1 : output 2 : internal wiegand input 3 : external wiegand input
Status	Enabled or not	INTEGER		Value options are as follows: 0 : no 1 : yes

2.18 Operation Log Information [oplogs]

Table Name	oplogs			
Description	This table stores operation log information.			
Field	Description	Data Type (Length)	Constraint	Remarks



ZKAccess



ZKBiolock



ZKiVision



ZKAFIS

ZKTeco[®]

ID	Operation log ID	INTEGER	Primary key	This field is a self-increasing field.
OpType	Operation type	INTEGER		Value options are as follows: 4: Access a menu. 5: Modify settings. 6: Enroll a fingerprint. 7: Enroll a password. 8: Enroll a HID card. 9: Remove a user. 10: Remove a fingerprint. 11: Remove a password. 12: Remove an RF card. 13: Clear data. 14: Create an MF card. 15: Enroll an MF card. 16: Register an MF card. 17: Remove MF card registration. 18: Clear the contents of an MF card. 19: Move registration data to a card. 20: Copy data from a card to the time and attendance application. 21: Set the time. 22: Restore factory settings. 23: Remove entry/exit records. 24: Clear administrator rights. 25: Modify settings of an access control group. 26: Modify access control settings of a user. 27: Modify the time zone for access control. 28: Modify settings of unlocking combinations. 29: Unlock the door. 30: Enroll a new user. 31: Modify fingerprint attributes. 32: Cause alarms forcibly. 34: Prevent unauthorized following. 35: Remove an attendance picture. 36: Modify other information of a user.
Operator	Operator	VARCHAR(24)		
OpTime	Operation time	VARCHAR(24)		
OpWho	Operated person	VARCHAR(24)		
Value1	Additional data	INTEGER		
Value2	Additional data	INTEGER		
Value3	Additional data	INTEGER		