SmartPSS-AC_Attendance Solution

User's Manual



Foreword

General

This manual introduces the attendance solution of SmartPSS-AC (hereinafter referred to as "the SmartPSS-AC").

Safety Instructions

The following categorized signal words with defined meaning might appear in the manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
A CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
O_T TIPS	Provides methods to help you solve a problem or save you time.
₩ NOTE	Provides additional information as the emphasis and supplement to the text.

Revision History

Version	Revision Content	Release Time
V1.0.1	Add authorization progress function.	June 2020
V1.0.0	First release.	May 2020

Privacy Protection Notice

As the device user or data controller, you might collect personal data of others such as face, fingerprints, car plate number, email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.

About the Manual

- The manual is for reference only. If there is inconsistency between the manual and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the manual.

- The manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper manual, CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
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- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

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1 Overview

The attendance solution is helpful for attendance management, such as shift arrangement, attendance query and attendance exception. It is also available for management of attendance terminal, management of user authority and log viewing.

2 Attendance Guide

You can quickly use the common functions of attendance here.

- Step 1 Click Attendance Solution in the left bar.
- Step 2 Click Attendance Guide on the homepage.
- <u>Step 3</u> Configure functions in the order from top to bottom and from left to right. For details about how to use these functions, see the corresponding chapters.

Figure 2-1 Attendance guide

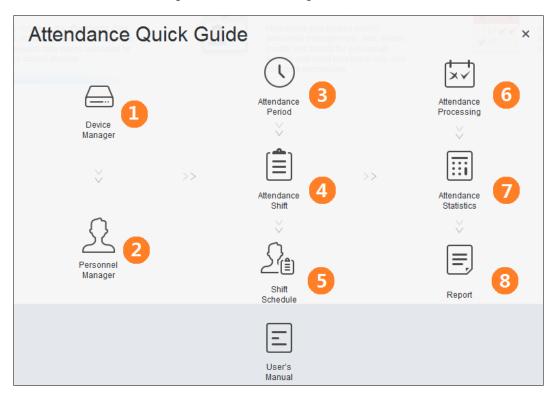


Table 2-1 Functions of attendance guide

Functions	Description
Device Manager	For details, see SmartPSS-AC_General_User's Manual.
Personnel Manager	For details, see "3 Personnel Management."
Attendance Period	For details, see "4 Attendance Period."
Attendance Shift	For details, see "6 Attendance Shift."
Shift Schedule	For details, see "7 Shift Schedule."
	Configure Holiday before arranging sift schedule, and then the shift
	schedule will skip the holiday automatically. For more details about
	holiday setting, see "5 Holiday."
Attendance Processing	For details, see "8 Processing Attendance."
Attendance Statistics	For details, see "9 Attendance Statistics."
Report	For details, see "10 Report Query."

Functions	Description
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In addition to the above attendance functions, you can also set attendance calculation rules and set report symbols. For details, see "11 Attendance Configuration."

3 Personnel Management

You can manage department information and staff information.

3.1 Department Management

You can add, modify or delete department. Here takes the department adding as an example. Step 1 Click **Personnel Manager** on the homepage.

- Step 2 (Optional) Select the company and click of to modify campby info, such as region, email and websete.
- Step 3 Click in the **Department List** to add.
- <u>Step 4</u> Select a superior department, and then add a new sub-department. Click **OK** to confirm.

Figure 3-1 Add department

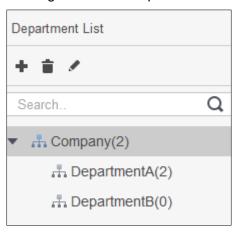
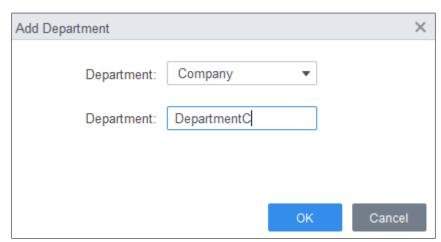


Figure 3-2 Add department information



- Step 5 (Optional) Click in the **Department List** to delete.
- Step 6 (Optional) Select the department and click in the **Department List** to modify.

3.2 Staff Management

You can add personnel information, issue cards, export personnel information to local, and freeze cards.

3.2.1 Card Type Setting

Before issuing card, set card type first. For example, if the issued card is ID card, select type as ID card.

Setting card type X

ID ID Card

IC IC Card

OK Cancel

Figure 3-3 Set card type

3.2.2 Adding Staff

Select one of the methods to add staff.

- Add staff one by one manually.
- Add staff in batches.
- Extract staff information from other devices.
- Import staff information from the local.

Add Staff One by One Manually

Step 1 Select Personnel Manger > User > Add.

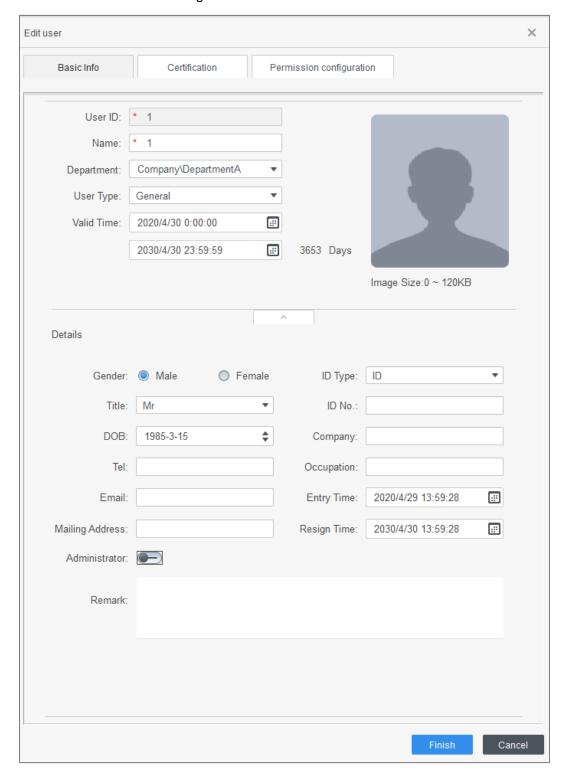
Step 2 Add basic information of staff.

- 1) Select Basic Info.
- 2) Add basic information of staff, and upload picture. Then click **Finish** to save.

 \square

The card number can be read automatically or filled in manually. For automatically read, select card reader next to the **Card No.**, and then place the card on the card reader. The card number is read automatically after that.

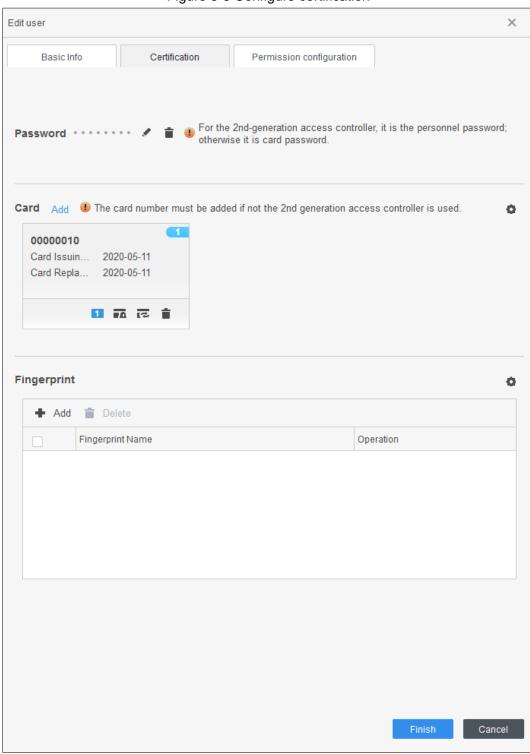
Figure 3-4 Add basic information



- <u>Step 3</u> Select **Personnel Manger > User > Add > Certification** to add certification information of staff.
 - Configure password.
 Set password. For the second generation access controllers, set the personnel password; for other devices, set the card password. The new password must consist of 6 to 8 digits.
 - Configure card.
 - 1) Click to select **Device** or **Card issuer** as card reader.

- 2) Add card. The card number must be added if the non-second generation access controller is used.
- 3) After adding, you can select the card as main card or duress card, or replace the card with new one, or delete the card.
- Configure fingerprint.
- 1) Click to select **Device** or **Fingerprint Scanner** as fingerprint collector.
- Add fingerprint. Click Add Fingerprint and press finger on the scanner three times continuously.

Figure 3-5 Configure certification



Step 4 Permission group is a combination of all devices supported by various solutions. After selecting the permission group, the personnel info will be sent to corresponding device and used for related functions of access control and attendance check. For details, see "0 You can select display modes: card display and list display; and you can also edit department and valid time of users in batches.

Figure 3-6 Card display

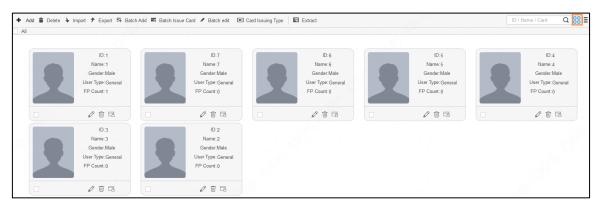
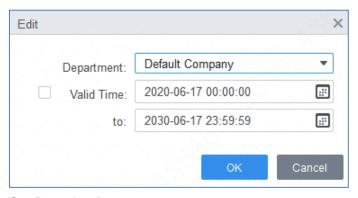


Figure 3-7 List display

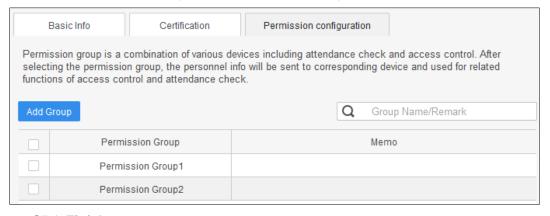


Figure 3-8 Edit department



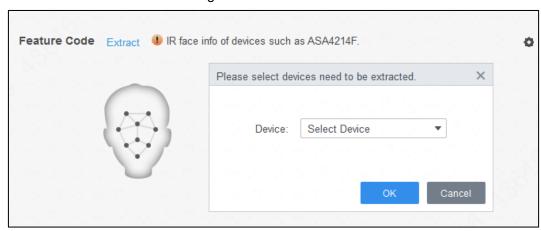
Step 5 Permission Configuration."

Figure 3-9 Permission configuration



Step 6 Click Finish.

Figure 3-10 Feature code



- Step 7 (Optional) If the user you added has face unlock permission of a device (device model is ASA4214F for example) with IR face feature function, and if you want to grant the user face unlock permission of other devices with IR face feature function, do the following operations.
 - 1) Click on the right of the user.
 - 2) Click the authentication tag on the pop-up interface.
 - 3) Click ...
 - 4) Select devices that are with face features of the user.
 - 5) Click **OK** and then click **Extract**. The user can unlock with faces on the selected devices that are with IR face feature function.

Add Staff in Batches

- Step 1 Select Personnel Manger > User > Batch Add.
- <u>Step 2</u> Select card reader and the department of staff. Set the start number, end number of card, effective time and expired time of card.
- Step 3 Click **Issue** and the card number will be read automatically.
- Step 4 Click OK.

Batch Add × Device Card issuer Start No.: Quantity: * 5 * 10 Department: Company\DepartmentB Effective Time: Expired Time: 2020/4/30 0:00:00 ... 2030/4/30 23:59:59 ∷ Issue Card Card No. 5 6 7 8 9 11 12 13 14

Figure 3-11 Add staff in batches

Step 5 In the list of staff, click do modify information or add details of staff.

Cancel

Extract Staff Information from Other Devices

Step 1 Select Personnel Manger > User > Extract.

Step 2 Select the needed device, and click **OK**.

Figure 3-12 Devices with staff information



Step 3 Select the needed staff information, and click Extract.

Step 4 In the list of staff, click of to modify information or add details of staff.

Import Staff Information from the Local

Step 1 Select Personnel Manger > User > Import.

Step 2 Import staff information according to instructions.

3.2.3 Issuing Card in Batches

You can issue cards to staff who have been added but have no card.

Step 1 Select Personnel Manager > User.

Step 2 Select the needed staff and then click **Batch Issue Card**.

Step 3 Issue card in batches. Card No. can be auto read by card reader or entered manually.

- Auto read
- 1) Select card reading device, and then click **Issue**.
- According to the order list, put the cards of the corresponding staff on card reader in sequence, and then the SmartPSS-AC will auto read the card No..
- 3) Modify staff info, such as start time and end time for card validation.
- Enter manually
- 1) Select staff in card list and enter the corresponding card No..
- 2) Modify staff info, such as start time and end time for card validation.

Batch Issue Card × Device: • Card issuer ID: Name: 7 7 Card No.: Department: Company Start Time: End time: 2020-05-04 00:00:00 2030-05-04 23:59:59 Card List User ID Name Card No. Operation 1 2 3 5

Figure 3-13 Issue card in batches

Step 4 Click OK.

3.2.4 Exporting Staff Information

Select the staff information which needs to be exported, and then click Export to import all staff information to local.

Cancel

3.2.5 Searching for Staff

Search for staff who meet the conditions, according to ID, name or card. Figure 3-14 Search for staff



3.2.6 Staff Displaying

You can select display modes: card display and list display; and you can also edit department and valid time of users in batches.

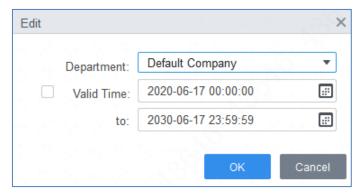
Figure 3-15 Card display



Figure 3-16 List display



Figure 3-17 Edit department



3.3 Permission Configuration

3.3.1 Adding Permission Group

- Step 1 Select Personnel Manger > Permission Configuration.
- Step 2 Click to add a permission group.
- Step 3 Set permission parameters.
 - 1) Enter group name and remark.
 - 2) Select the needed time template.
 - Ш

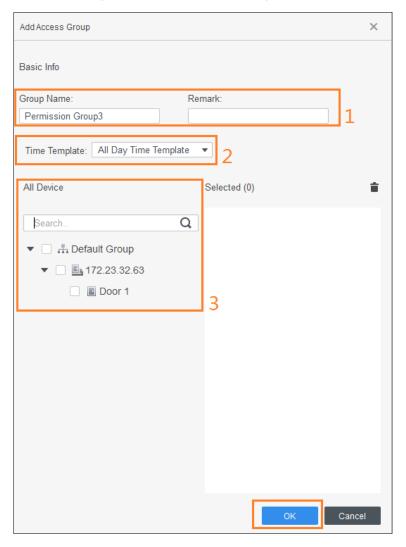
For details of time template setting, see *SmartPSS-AC_Access Control Solution_User's Manual*.

- 3) Select the corresponding device, such as door 1.
- Step 4 Click **OK** to save operations.
- Step 5 (Optional) Click to delete group.
- Step 6 (Optional) Click do modify group info.
- $\underline{\text{Step 7}}\ \ \text{(Optional)}$ Double-click permission group name to view group info.

Figure 3-18 Add permission group (1)



Figure 3-19 Add permission group (2)



3.3.2 Configuring Permission

The method to configure permission for department and for personnel is similar, and here takes department as an example.

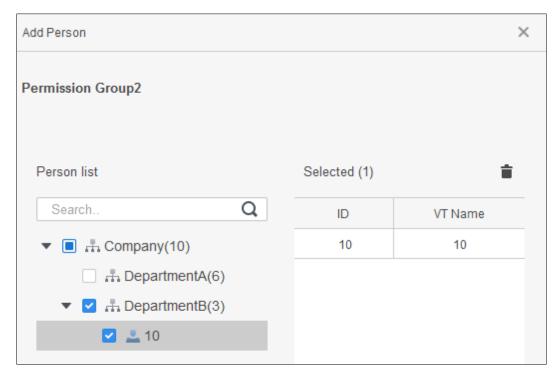
<u>Step 1</u> Select **Personnel Manger > Permission Configuration**.

Step 2 Click .

<u>Step 3</u> Select the department to be configured permission.

Step 4 Click OK.

Figure 3-20 Configure permission



Step 5 (Optional) Click in the left navigation bar to view the authorization progress. If authorization failed, click in the list to view the possible reason.

4 Attendance Period

You can add, modify and delete attendance period.

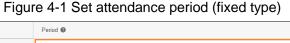
4.1 Adding Attendance Period

- Step 1 Select Attendance Manager > Attendance Period.
- <u>Step 2</u> Click **Add**, and then set the basic information of period, attendance period and attendance rule.



You can mark the attendance period with color. When you arrange and apply for shifts, the color will be displayed in calendar.

- Fixed type: Set the working hour, valid check-in time, valid check-out time and more. The attendance period is fixed. For fixed type, add up to 2 attendance periods.
- Flexible type: Set the working hour of a day. The checking time is flexible.



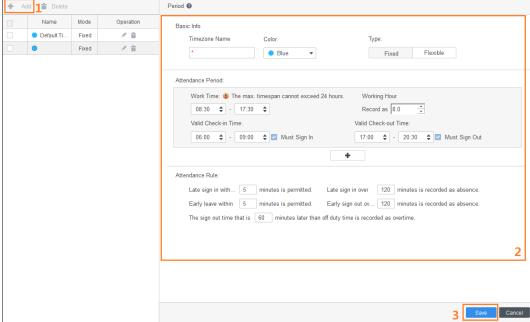
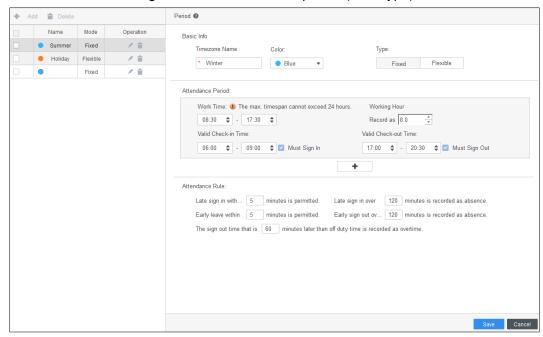


Figure 4-2 Set attendance period (fixed type)



Step 3 Click Save.

4.2 Modifying Attendance Period

In the list of attendance period, click which is on the right of each attendance period, and then adjust the period. For details, see "4.1 Adding Attendance Period."

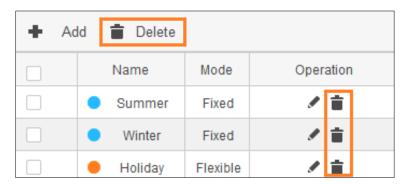
Figure 4-3 Modify attendance period



4.3 Deleting Attendance Period

In the list of attendance period, click which is on the right of each attendance period, and then delete the period. Or select the period that you do not need, and then click **Delete** next to **Add**. Click **Yes** to confirm operation.

Figure 4-4 Delete attendance period



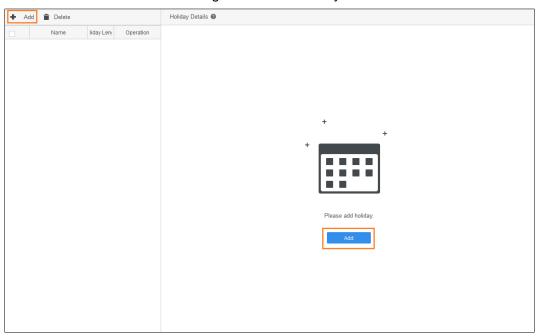
5 Holiday

You can add, modify and delete holiday information. After adding, the holidays will be displayed in calendar.

5.1 Adding Holiday

- Step 1 Select Attendance Manager > Holiday.
- Step 2 Click Add.

Figure 5-1 Add holiday



<u>Step 3</u> Set the holiday name, holiday time and holiday length. Then click **Save**. Holiday will be displayed in calendar.

Figure 5-2 Set holiday information

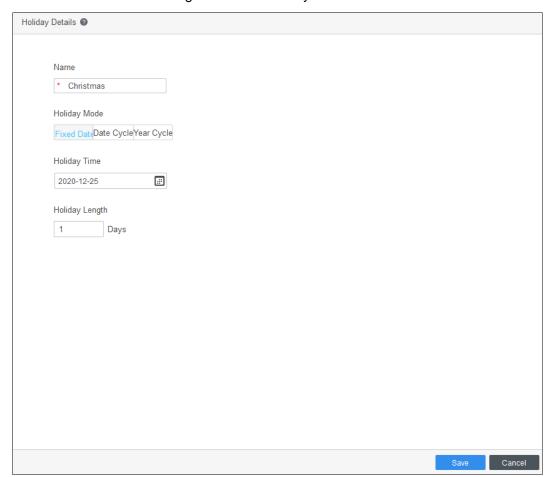
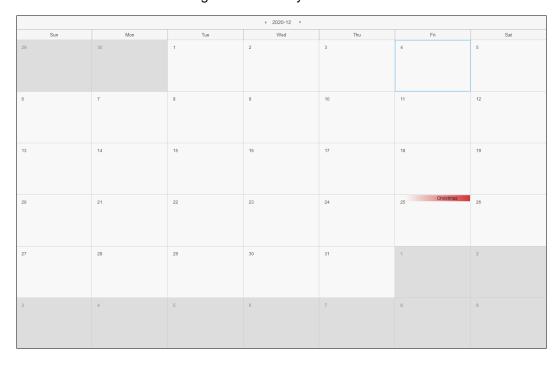


Figure 5-3 Holiday in calendar



5.2 Modifying Holiday

In holiday list, click which is on the right of each holiday, and then adjust the holiday. For details, see "5.1 Adding Holiday."

Figure 5-4 Modify holiday



5.3 Deleting Holiday

In the list of holiday, click which is on the right of each holiday, and then delete the holiday. Or select the holiday that you do not need, and then click **Delete** which is next to **Add**. Click **Yes** on the prompt interface to confirm operation.

Figure 5-5 Delete holiday



6 Attendance Shift

You can add, modify and delete attendance shift.

6.1 Adding Attendance Shift

You can arrange shift by day, week or month. For monthly shift, you only need to arrange the shift of one month, and then other months will be scheduled in the same way.

Here takes the weekly shift as an example.

- Step 1 Select Attendance Manager > Attendance Shift.
- Step 2 Click **Add** on the upper lefty corner of interface.
- <u>Step 3</u> Set the shift name, cycle mode and cycle period. And apply the time period to the selected weeks.

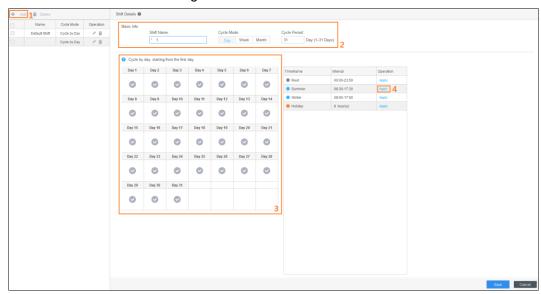


Figure 6-1 Set attendance shift

Step 4 Click **Save** and then click **OK** to confirm operation.

6.2 Modifying Attendance Shift

In the list of attendance shift, click which is on the right of each attendance shift, and then adjust the shift. For details, see "6.1 Adding Attendance Shift."



Figure 6-2 Modify attendance shift

6.3 Deleting Attendance Shift

In the list of attendance shift, click which is on the right of each attendance shift, and then delete the shift. Or select the attendance shift that you do not need, and then click **Delete** which is next to **Add**. Click **Yes** to confirm operation.

Add Delete

Name Cycle Mode Operation

Default Shift Cycle by Day

Cycle by Day

1

Figure 6-3 Delete attendance shift

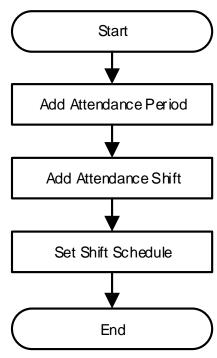
7 Shift Schedule

You can arrange shift schedule for department or staff, arrange temporary shift, as well as make leave and business trip.

7.1 First-time Shift Schedule

There is the process for the first-time shift schedule.

Figure 7-1 Process of first-time shift schedule



- Add attendance period: See "4.1 Adding Attendance Period."
- Add attendance shift: See "6.1 Adding Attendance Shift."
- Set shift schedule: See "7.2 Daily Shift Schedule."

7.2 Daily Shift Schedule

You can arrange shift schedule for department or staff, and arrange temporary shift

Shift schedule for Department

- Step 1 Select Attendance Manager > Shift Schedule.
- Step 2 Click Department Schedule.
- <u>Step 3</u> Select the department which needs to be arranged shift, and then click **Add**. The attendance shift will be added automatically.
- Step 4 Set the start time, end time and shift.
- Step 5 Set the rule as **Valid Overtime** to enable overtime ratio rules.

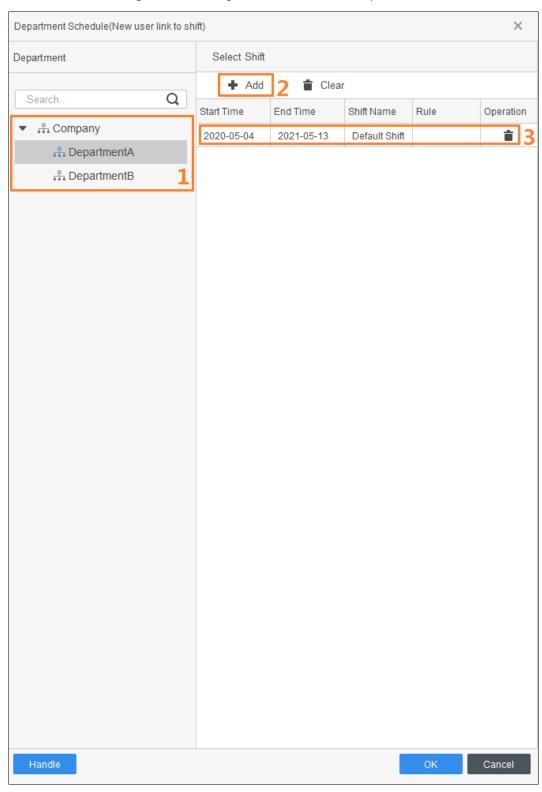
It is only available for department schedule and person schedule.

Step 6 Click OK.



After department schedule is applied, the already existed schedules are being affected. The newly added personnel of the department is arranged to the department schedule by default. Priority: Department schedule < Single Person < Holiday < Temporary.

Figure 7-2 Arrange shift schedule for department



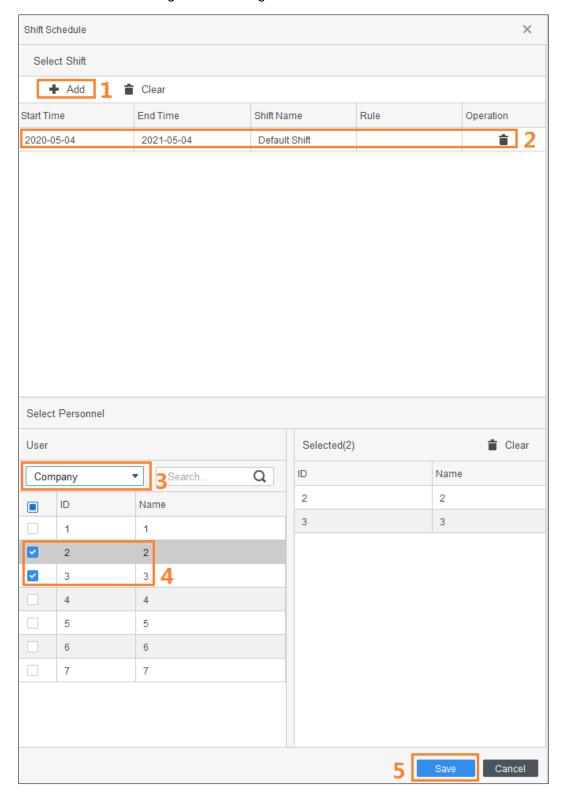
Shift schedule for Staff

Step 1 Select **Attendance Manager > Shift Schedule**.

Step 2 Click Shift Schedule.

- <u>Step 3</u> Set the shift parameters, and select rule as **Valid Overtime** to enable overtime ratio rules. .
- Step 4 Select the staff who needs to be arranged shift and the corresponding department.
- Step 5 Click Save to confirm operation.

Figure 7-3 Arrange shift schedule for staff



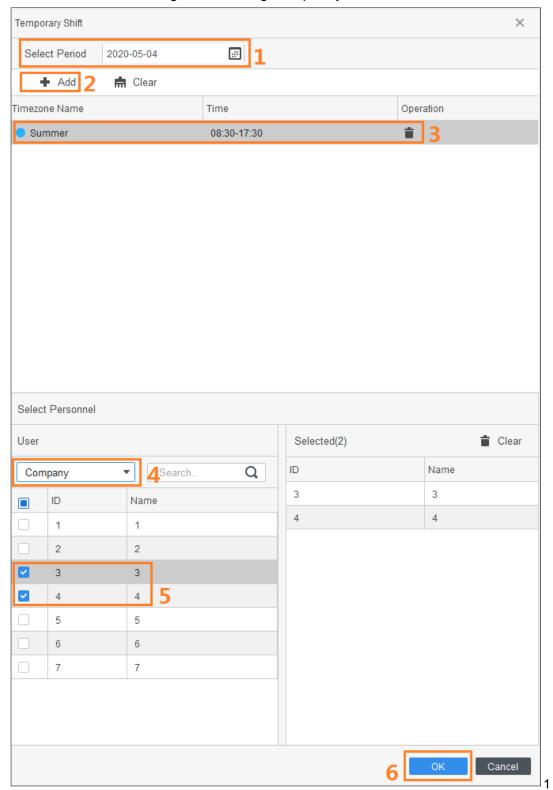
Temporary Schedule

- **Step 1** Select **Attendance Manager >Shift Schedule**.
- Step 2 Click Temporary Schedule.
- Step 3 Set period of temporary shift. And then click **Add** to add attendance period.

<u>Step 4</u> Select the staff who needs to be arranged shift and the corresponding department.

Step 5 Click **OK** to confirm operation.

Figure 7-4 Arrange temporary schedule



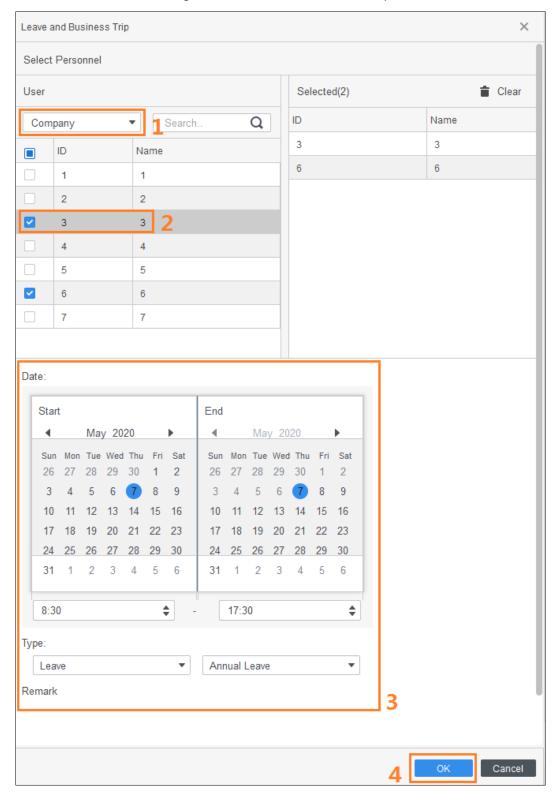
7.3 Leave and Business Trip

Step 1 Select Attendance Manager >Shift Schedule.

Step 2 Click Leave and Business Trip.

- Step 3 Select the staff who needs to ask for a leave or business trip and the corresponding department.
- <u>Step 4</u> Enter the leave date, type and remark. Supports three types, including leave, business trip and paid leave. And you can also customize own types.
- Step 5 Click **OK** to confirm operation.

Figure 7-5 Leave and Business Trip



8 Processing Attendance

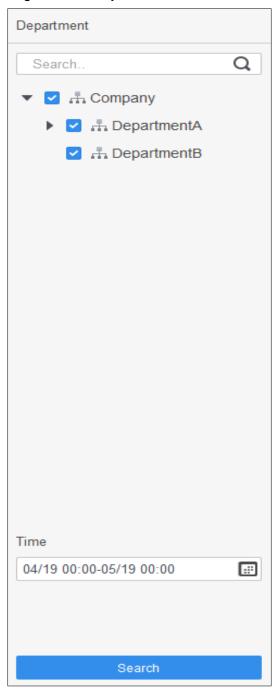
You can query for attendance statistics, deal with attendance abnormalities, and submit leave requirements.

8.1 Attendance Statistics Query

- Step 1 Select Attendance Manager > Attendance Processing.
- Step 2 Select the needed department and the needed time. And then click **Search**.

The results are displayed on the right side of the interface.

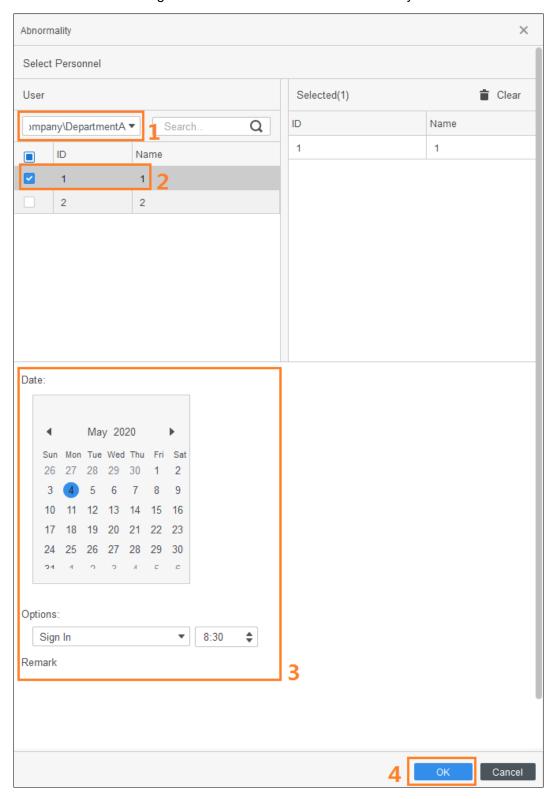
Figure 8-1 Query for attendance statistics



8.2 Attendance Abnormality

- Step 1 Select Attendance Manager > Attendance Processing
- Step 2 Click Abnormality.
- <u>Step 3</u> Select the staff who has attendance abnormality and the corresponding department. And then select the date and type of abnormality, as well as enter the remark to note the reason.
- Step 4 Click **OK** to confirm operation.

Figure 8-2 Process attendance Abnormality



3.3 Leave and Business Trip					
For details, see "7.3 Leave and Business Trip."					

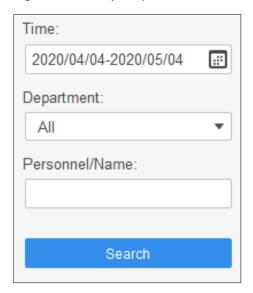
9 Attendance Statistics

9.1 Punch-card Data Searching

You can query for the original statistics collected by terminal or the statistics analyzed by the SmartPSS-AC.

- **Step 1** Select **Attendance Manager > Attendance Statistics**.
- Step 2 Click Punch Card Data.
- Step 3 Select the needed time, department and staff.
- Step 4 Click Search.

Figure 9-1 Query for punch card data



- Step 5 (Optional) Click **Import** to import attendance data to the SmartPSS-AC.
- Step 6 (Optional) Click **Export** to automatically export attendance data to local.
- <u>Step 7</u> (Optional) Click **Data Extract**, set extract time manually and click **Extract**. You can extract the attendance data of all the configured attendance points.



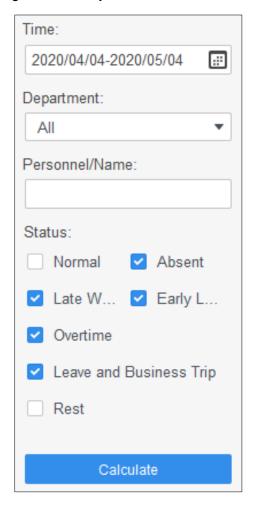
You can set attendance points when selecting **Attendance Manager > Attendance Configuration > Attendance Point Settings**. For details, see "11.1 Setting Attendance Point."

9.2 Attendance Statistics Searching

You can query for the statistics analyzed collected by the SmartPSS-AC.

- Step 1 Select Attendance Manager > Attendance Statistics.
- Step 2 Click Attendance Statistics.
- <u>Step 3</u> Select the needed time, department and staff. And then select the attendance status, such as **Absent** and **Overtime**.
- Step 4 Click Calculate.

Figure 9-2 Query for attendance statistics



<u>Step 5</u> (Optional) Click **Export** to auto export the analyzed attendance statistics to local.<u>Step 6</u> (Optional) Click **Abnormality** to deal with the abnormal attendance. For details, see

10 Report Query

You can view the normal attendance, attendance abnormality, overtime attendance and staff information here. And the statistics can be exported as reports.

Select the time, department and statistic type, to view the corresponding reports.



It is available to use symbols to represent statistic in the reports. For example, use A to represents absent. For details, see "11.4 Setting Report Symbol."

11 Attendance Configuration

You can set attendance configuration, set calculation rule, add leave type and set report display symbol.

11.1 Setting Attendance Point

For access controllers, it needs to be set as attendance point, and then the platform receives attendance records after configuration.

- **Step 1** Select **Attendance Manager > Attendance Config > Attendance Point Settings**.
- Step 2 In the device list, select the device that you want to be used as attendance point.
- Step 3 Click OK.

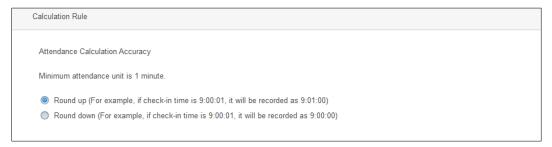
11.2 Setting Calculation Rule

You can set the calculation rule to adjust attendance accuracy.

- **Step 1** Select **Attendance Manager > Attendance Config > Calculation Rule**.
- Step 2 Adjust the attendance accuracy. There are two kinds of rules.
 - Round up: For example, if check-in time is 9:00:01, it will be recorded as 09:01:00.
 - Round down: For example, if check-in time is 9:00:01, it will be recorded as 09:00:00.

Step 3 Click OK.

Figure 11-1 Set calculation rule

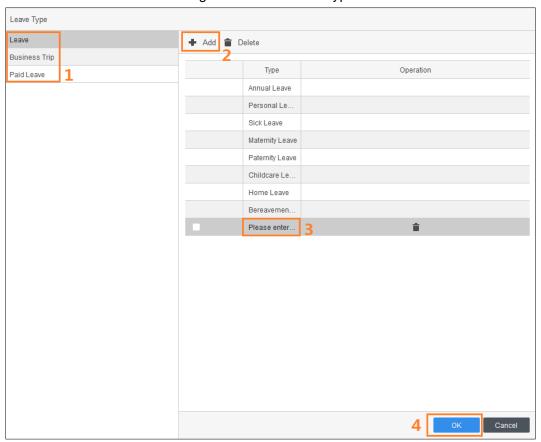


11.3 Adding Leave Type

It provides some common leave types. And you can add new types.

- **Step 1** Select **Attendance Manager > Attendance Config > Leave Type**.
- <u>Step 2</u> Select **Leave**, **Business Trip** or **Paid Leave**, and then click **Add**. In the new added type, double-click to enter the name of leave.
- Step 3 Click **OK** to confirm operation.

Figure 11-2 Add leave type

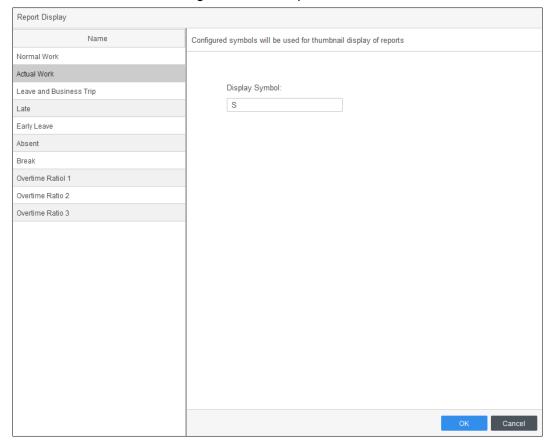


11.4 Setting Report Symbol

You can set symbols to represent statistic in the reports. For example, use A to represents absent.

- Step 1 Select Attendance Manager > Attendance Config > Report Display.
- Step 2 Select one kind of statistic and then set the display symbol.
- Step 3 Click **OK**. When you export that statistic as report, that kind of statistic will be displayed as the set symbol.

Figure 11-3 Set report statistic



11.5 Setting Overtime Rule

You can set overtime rules for weekdays and weekends.

- For weekday, calculate working hours according to overtime ratio of different periods. For example, set the ratio of Monday as: 1 time for 0-2 h; 2 times for 2-4 h; 3 times for 4-24h. If staff A works overtime on Monday for 8 h, and then the calculated overtime hour is 2*1+2*2+4*3=16h.
- For weekend, calculate working hours according to one pre-defined overtime ratio. For example, set the ratio of weekend as 2 times. If staff A works overtime on Weekend for 8 h, and then the calculated overtime hour is 2*8=16h.

After setting the overtime rules, set the schedule rule as **Valid Overtime** when arrange schedules. For details, see "7 Shift Schedule."

- **Step 1** Select **Attendance Manager > Attendance Config > Overtime Settings**.
- Step 2 Select overtime ratio for 1 time, 2 times and 3 times.
- <u>Step 3</u> Set the overtime rules for weekdays. Drag the borders of the color areas to set overtime ratio for different overtime hours.
- Step 4 Set the overtime rules for weekends
- <u>Step 5</u> Enable the needed overtime ratio and click **OK**.

12 Monitoring Condition

Attendance terminal will send records of attendance to the SmartPSS-AC in real time, when the staff use the attendance terminal. You can view real-time records on the interface of **Condition Monitor**; but when you close the interface, all records will be cleared

To view the real-time attendance data by **Condition Monitor**, some conditions need to be met at the same time:

- Personnel have to be added to the SmartPSS-AC.
- Devices have to be added to the SmartPSS-AC. For access controllers, set attendance point first.
- Assign the attendance permissions to the needed personnel.

Appendix 1 Cybersecurity Recommendations

Cybersecurity is more than just a buzzword: it's something that pertains to every device that is connected to the internet. IP video surveillance is not immune to cyber risks, but taking basic steps toward protecting and strengthening networks and networked appliances will make them less susceptible to attacks. Below are some tips and recommendations on how to create a more secured security system.

Mandatory actions to be taken for basic equipment network security:

1. Use Strong Passwords

Please refer to the following suggestions to set passwords:

- The length should not be less than 8 characters;
- Include at least two types of characters; character types include upper and lower case letters, numbers and symbols;
- Do not contain the account name or the account name in reverse order;
- Do not use continuous characters, such as 123, abc, etc.;
- Do not use overlapped characters, such as 111, aaa, etc.;

2. Update Firmware and Client Software in Time

- According to the standard procedure in Tech-industry, we recommend to keep your equipment (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes. When the equipment is connected to the public network, it is recommended to enable the "auto-check for updates" function to obtain timely information of firmware updates released by the manufacturer.
- We suggest that you download and use the latest version of client software.

"Nice to have" recommendations to improve your equipment network security:

1. Physical Protection

We suggest that you perform physical protection to equipment, especially storage devices. For example, place the equipment in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable equipment (such as USB flash disk, serial port), etc.

2. Change Passwords Regularly

We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. Set and Update Passwords Reset Information Timely

The equipment supports password reset function. Please set up related information for password reset in time, including the end user's mailbox and password protection questions. If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. Enable Account Lock

The account lock feature is enabled by default, and we recommend you to keep it on to guarantee the account security. If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. Change Default HTTP and Other Service Ports

We suggest you to change default HTTP and other service ports into any set of numbers between 1024~65535, reducing the risk of outsiders being able to guess which ports you are using.

6. Enable HTTPS

We suggest you to enable HTTPS, so that you visit Web service through a secure communication channel.

7. Enable Whitelist

We suggest you to enable whitelist function to prevent everyone, except those with specified IP addresses, from accessing the system. Therefore, please be sure to add your computer's IP address and the accompanying equipment's IP address to the whitelist.

8. MAC Address Binding

We recommend you to bind the IP and MAC address of the gateway to the equipment, thus reducing the risk of ARP spoofing.

9. Assign Accounts and Privileges Reasonably

According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

10. Disable Unnecessary Services and Choose Secure Modes

If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.

If necessary, it is highly recommended that you use safe modes, including but not limited to the following services:

- SNMP: Choose SNMP v3, and set up strong encryption passwords and authentication passwords.
- SMTP: Choose TLS to access mailbox server.
- FTP: Choose SFTP, and set up strong passwords.
- AP hotspot: Choose WPA2-PSK encryption mode, and set up strong passwords.

11. Audio and Video Encrypted Transmission

If your audio and video data contents are very important or sensitive, we recommend that you use encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.

Reminder: encrypted transmission will cause some loss in transmission efficiency.

12. Secure Auditing

- Check online users: we suggest that you check online users regularly to see if the device is logged in without authorization.
- Check equipment log: By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

13. Network Log

Due to the limited storage capacity of the equipment, the stored log is limited. If you need to save the log for a long time, it is recommended that you enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

14. Construct a Safe Network Environment

In order to better ensure the safety of equipment and reduce potential cyber risks, we recommend:

- Disable the port mapping function of the router to avoid direct access to the intranet devices from external network.
- The network should be partitioned and isolated according to the actual network needs.
 If there are no communication requirements between two sub networks, it is

- suggested to use VLAN, network GAP and other technologies to partition the network, so as to achieve the network isolation effect.
- Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private networks.
- It is recommended that you enable your device's firewall or blacklist and whitelist feature to reduce the risk that your device might be attacked.