

# **CAMDIGIKEY KYC VERIFICATION API**

Organization Level's Open API  
By CamDX Operator

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**Release V2.1.0 – April 2023**

**DOCUMENT VERSION HISTORY**

RELEASE NO	AUTHOR	DATE	BRIEF SUMMARY OF CHANGES
2.0.0	CAMDX OPERATOR	04/AUGUST/2022	<ul style="list-style-type: none"> <li>❖ VERIFY USER INFO</li> <li>❖ VERIFY USER INFO AND USER FACE</li> <li>❖ VERIFY USER INFO, ID CARD AND USER FACE</li> <li>❖ VERIFY USER INFO, ID CARD IMAGE, AND LIVENESS</li> <li>❖ KHMER ID CARD OCR</li> </ul>
2.0.1	CAMDX OPERATOR	18/AUGUST/2022	<ul style="list-style-type: none"> <li>❖ ADD API CODE</li> <li>❖ ADD API VERSION</li> </ul>
2.0.2	CAMDX OPERATOR	06/JANUARY/2023	<ul style="list-style-type: none"> <li>❖ PASSPORT OCR</li> </ul>
2.1.0	CAMDX OPERATOR	12/APRIL/2023	<ul style="list-style-type: none"> <li>❖ FIXED HTTP HEADER STATUS</li> <li>❖ UPDATED API VERSION</li> </ul>
2.1.0	CAMDX OPERATOR	02/JUNE/2023	<ul style="list-style-type: none"> <li>❖ ADDED A LIST OF ERROR CODE</li> </ul>

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## 1. INTRODUCTION

CamDigiKey is an E-KYC solution focusing on convenience and security for users. Basically, users need to register themselves to the application by providing their faces and identity documents such as ID card or passport. Once the user's account is approved, they can use CamDigiKey mobile application to login to any CamDigiKey partner's portals.

For organization or institution, CamDigiKey provides open KYC verification APIs which enable fast user on board on the organization or institution's platform. The open KYC verification APIs consist of checking user info and face against data from MOI and verifying user liveness to ensure user is a real human.

This document will focus on integration with CamDigiKey as authentication/authorization and the usage of open KYC verification APIs via CamDX.

## 2. OPEN KYC VERIFICATION APIS

Open KYC verification APIs are available over CamDX (Cambodia Data eXchange) which is an interoperability platform of Cambodia government. The KYC verification APIs consist of 6 APIs:

<b>Request Based URL:</b>	
http(s)://{REQUESTER_SS_MEMBER_ADDR}/r1/CAMBODIA/GOV/{CAMDIGIKEY_MEMBER_CODE}/CAMDIGIKEY_KYC	
<b>Request Header:</b>	
<b>X-Road-Client:</b> CAMBODIA/GOV/{REQUESTER_SS_MEMBER_CODE}/{REQUESTER_SS_SUBSYSTEM_CODE}	
<b>Environment</b>	<b>CAMDIGIKEY_MEMBER_CODE</b>
<b>DEVELOPMENT</b>	CAMDX-20201222
<b>PRODUCTION</b>	CAMDX-000003

### Example:

#### **DEVELOPMENT:**

http(s)://dev.ss.camdx.gov.kh:8443/r1/CAMBODIA/GOV/CAMDX-20201222/CAMDIGIKEY\_KYC

#### **PRODUCTION:**

http(s)://ss.camdx.gov.kh/r1/CAMBODIA/GOV/CAMDX-000003/CAMDIGIKEY\_KYC

## 2.1 VERIFY USER INFO

No	Verification between submitted information with MOI information	
1	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.info
	<b>Version</b>	2.1.0
	<b>API Endpoint</b>	http(s)://{request_base_url}/info-v2.1
	<b>Method</b>	POST
	<b>Format</b>	JSON
	<b>Request params</b>	<pre>{   "idNumber" : "id_number",   "firstNameKh" : "first_name_kh",   "lastNameKh" : "last_name_kh",   "firstNameEn" : "first_name_en",   "lastNameEn" : "last_name_en",   "gender" : "M_or_F",   "dob" : "yyyy-MM-dd",   "issuedDate" : "yyyy-MM-dd",   "expiredDate" : "yyyy-MM-dd" }</pre>
	<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "idNumber": "id_number",     "score": 1, #Range [0,1]     "incorrectFields": [requested_fields_or_empty]   } }</pre>

## 2.2 Verify User Info and User Face

No	Verification between submitted user information include face image with MOI information	
	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.info-face
	<b>Version</b>	2.1.0
	<b>API Endpoint</b>	http(s)://{request_base_url}/info-face-v2.1
	<b>Method</b>	POST
	<b>Format</b>	JSON
2	<b>Request params</b>	<pre>{   "userInfo" : {     "idNumber" : "id_number",     "firstNameKh" : "first_name_kh",     "lastNameKh" : "last_name_kh",     "firstNameEn" : "first_name_en",     "lastNameEn" : "last_name_en",     "gender" : "M_or_F",     "dob" : "yyyy-MM-dd",     "issuedDate" : "yyyy-MM-dd",     "expiredDate" : "yyyy-MM-dd"   },   "faceImg" : "base_64_content" }</pre>
	<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "userInfo": {       "idNumber": "id-card-number",       "score": 1, #Range [0,1]       "incorrectFields": []     },     "faceMoiScore": 0.9792682 # Range [0,1]   } }</pre>

### 2.3 Verify User Info, ID Card and User Face

No	- Verification with submitted document, face verification with retrieved image from MOI - Verification of submitted information with MOI information	
3	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.info-face-idcard
	<b>Version</b>	2.1.0
	<b>API Endpoint</b>	http(s)://{request_base_url}/info-face-idcard-v2.1
	<b>Method</b>	POST
	<b>Format</b>	JSON
	<b>Request params</b>	<pre>{   "userInfo" : {     "idNumber" : "id_number",     "firstNameKh" : "first_name_kh",     "lastNameKh" : "last_name_kh",     "firstNameEn" : "first_name_en",     "lastNameEn" : "last_name_en",     "gender" : "M_or_F",     "dob" : "yyyy-MM-dd",     "issuedDate" : "yyyy-MM-dd",     "expiredDate" : "yyyy-MM-dd"   },   "faceImg" : "base_64_content",   "idImage" : "base_64_content" }</pre>
	<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "userInfo": {       "idNumber": "id_number",       "score": 1, #Range[0,1]       "incorrectFields": []     },     "faceDocumentScore": 0.9457877, #Range[0,1]     "faceMoiScore": 0.9792682 #Range[0,1]   } }</pre>

### 2.4 Verify User Info, ID Card Image, and Liveness

No	<ul style="list-style-type: none"> <li>- Liveness verification check, face verification with submitted document, face verification with retrieved image from MOI</li> <li>- Verification of submitted information with MOI information</li> </ul>										
3	<table border="1"> <tr> <td><b>API Code</b></td> <td>KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.info-idcard-liveness</td> </tr> <tr> <td><b>Version</b></td> <td>2.1.0</td> </tr> <tr> <td><b>API Endpoint</b></td> <td>http(s)://{request_base_url}/info-idcard-liveness-v2.1</td> </tr> <tr> <td><b>Method</b></td> <td>POST</td> </tr> <tr> <td><b>Format</b></td> <td>JSON</td> </tr> </table>	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.info-idcard-liveness	<b>Version</b>	2.1.0	<b>API Endpoint</b>	http(s)://{request_base_url}/info-idcard-liveness-v2.1	<b>Method</b>	POST	<b>Format</b>	JSON
	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.info-idcard-liveness									
	<b>Version</b>	2.1.0									
	<b>API Endpoint</b>	http(s)://{request_base_url}/info-idcard-liveness-v2.1									
	<b>Method</b>	POST									
<b>Format</b>	JSON										
<table border="1"> <tr> <td><b>Request params</b></td> <td> <pre>{   #1: turn face to the left, 2: turn face to the right, 3: nod the head   "actions":["2","1","3"],   "userInfo" : {     "idNumber" : "id_number",     "firstNameKh" : "first_name_kh",     "lastNameKh" : "last_name_kh",     "firstNameEn" : "first_name_en",     "lastNameEn" : "last_name_en",     "gender" : "M_or_F",     "dob" : "yyyy-MM-dd",     "issuedDate" : "yyyy-MM-dd",     "expiredDate" : "yyyy-MM-dd"   },   "idImage" : "base_64_content",   "liveness" : "base_64_content" }</pre> </td> </tr> </table>	<b>Request params</b>	<pre>{   #1: turn face to the left, 2: turn face to the right, 3: nod the head   "actions":["2","1","3"],   "userInfo" : {     "idNumber" : "id_number",     "firstNameKh" : "first_name_kh",     "lastNameKh" : "last_name_kh",     "firstNameEn" : "first_name_en",     "lastNameEn" : "last_name_en",     "gender" : "M_or_F",     "dob" : "yyyy-MM-dd",     "issuedDate" : "yyyy-MM-dd",     "expiredDate" : "yyyy-MM-dd"   },   "idImage" : "base_64_content",   "liveness" : "base_64_content" }</pre>									
<b>Request params</b>	<pre>{   #1: turn face to the left, 2: turn face to the right, 3: nod the head   "actions":["2","1","3"],   "userInfo" : {     "idNumber" : "id_number",     "firstNameKh" : "first_name_kh",     "lastNameKh" : "last_name_kh",     "firstNameEn" : "first_name_en",     "lastNameEn" : "last_name_en",     "gender" : "M_or_F",     "dob" : "yyyy-MM-dd",     "issuedDate" : "yyyy-MM-dd",     "expiredDate" : "yyyy-MM-dd"   },   "idImage" : "base_64_content",   "liveness" : "base_64_content" }</pre>										
<table border="1"> <tr> <td><b>Response payload</b></td> <td> <pre>{   "error": 0,   "message": "Successfully",   "data": {     "userInfo": {       "idNumber": "010682723",       "score": 1,       "incorrectFields": []     },     "livenessScore": 0.9248705,     "faceDocumentScore": 0.94440883,     "faceMoiScore": 0.9769943   } }</pre> </td> </tr> </table>	<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "userInfo": {       "idNumber": "010682723",       "score": 1,       "incorrectFields": []     },     "livenessScore": 0.9248705,     "faceDocumentScore": 0.94440883,     "faceMoiScore": 0.9769943   } }</pre>									
<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "userInfo": {       "idNumber": "010682723",       "score": 1,       "incorrectFields": []     },     "livenessScore": 0.9248705,     "faceDocumentScore": 0.94440883,     "faceMoiScore": 0.9769943   } }</pre>										



## 2.5 Khmer ID Card OCR

No	OCR extracts user's information from submitted identification image	
3	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.ocr-idcard
	<b>Version</b>	2.1.0
	<b>API Endpoint</b>	http(s)://{request_base_url}/ocr-idcard-v2.1
	<b>Method</b>	POST
	<b>Format</b>	JSON
	<b>Request params</b>	<pre>{   "idImage" : "base_64_content" }</pre>
	<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "idNumber" : "id_number",     "firstNameKh" : "first_name_kh",     "lastNameKh" : "last_name_kh",     "firstNameEn" : "first_name_en",     "lastNameEn" : "last_name_en",     "gender" : "M_or_F",     "dob" : "yyyy-MM-dd",     "issuedDate" : "yyyy-MM-dd",     "expiredDate" : "yyyy-MM-dd"     "MRZ1" : "String",     "MRZ2" : "String",     "MRZ3" : "String",   } }</pre>

## 2.6 Passport OCR OCR

No	OCR extracts user's information from submitted passport image	
3	<b>API Code</b>	KH.GOV.CAMDX-000003.CAMDIGIKEY_KYC.ocr-passport
	<b>Version</b>	2.1.0
	<b>API Endpoint</b>	http(s)://{request_base_url}/ocr-passport-v2.1
	<b>Method</b>	POST
	<b>Format</b>	JSON
	<b>Request params</b>	<pre>{   "passportImage" : "passport_image_base64" }</pre>
	<b>Response payload</b>	<pre>{   "error": 0,   "message": "Successfully",   "data": {     "expiredDate" : "expired_date",     "dob" : "yyyy-MM-dd",     "document_number" : "passport_number",     "nationality" : "nationality",     "gender" : "M_or_F",     "firstNameEn" : "first_name",     "lastNameEn" : "last_name"   } }</pre>

## 3. API ERROR CODES

Error Code	Message
<b>400</b>	Id card not exists in the system
<b>420</b>	Request quota reached
<b>421</b>	IP address is not allowed to request
<b>500</b>	Problem with facial recognition from requested image/video
<b>501</b>	Problem detecting face from submitted Idcard Image
<b>502</b>	Internal services error
<b>503</b>	Problem with connection to MOI service
<b>504</b>	Problem with data from MOI service
<b>505</b>	Invalid request or internal server error.
<b>506</b>	OCR service error
<b>507</b>	OCR service network problem

## 4. CONTACT US

- Email: [camdx-info@techostartup.center](mailto:camdx-info@techostartup.center)
- Address: Floor 11, Business Development Center, OCIC Blvd, Sangkat Chroy Changvar, Khan Chroy Changvar, Phnom Penh, Cambodia