

QKits SKU Cross-Reference

User Guide

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This guide explains how to configure, use, and maintain the SKU Cross-Reference module for managing UPC/EAN/MPN to SKU mappings and barcode scanner lookups.

Table of Contents

1. Overview & How It Works
2. Configuration
3. Admin Menu Navigation
4. Managing Cross-Reference Mappings
5. Using the Barcode Scanner Lookup
6. Importing Mappings from CSV
7. Admin Product Search Enhancement
8. Code Type Auto-Detection
9. HAL 9000 Integration
10. Tips & Best Practices

1. Overview & How It Works

Magento SKUs are human-readable (e.g., ARDUINO-UNO-R3). Products also carry UPC barcodes, EAN codes, and manufacturer part numbers (MPN). This module creates a mapping table connecting these external codes to your Magento SKUs.

Lookup Priority Chain

Priority	Search Type	What It Does
1st	Exact SKU Match	Tries the input as a Magento SKU directly
2nd	Cross-Reference Lookup	Searches the mapping table for UPC/EAN/MPN match
3rd	Partial SKU Match	Falls back to a LIKE search on Magento SKUs

You can type a SKU, scan a UPC barcode, or enter a manufacturer part number and the module will find the right product. Leading zeros are stripped to handle scanner variations.

2. Configuration

All module settings are at **Stores** → **Configuration** → **QKits** → **SKU Cross-Reference**.

General Settings

Setting	Default	Description
Enable Module	Yes	Master on/off switch. Set to No to disable all module functionality without uninstalling. The module remains installed but inactive — no cross-reference lookups, no barcode scanning, no admin search enhancement.
Enhance Admin Product Search	Yes	When enabled, searching by UPC/MPN in the Catalog → Products grid also checks the cross-reference table. Only visible when Enable Module is Yes.

License

Setting	Description
License Key	Your QK-UC-XXXX-XXXX-XXXX license key from modules.qkits.com. Required for module functionality. Without a valid key, admin pages show a warning banner and all features are disabled.

Note: Both **Enable Module = Yes** and a **valid license key** are required for the module to function. If either condition is not met, a warning banner appears on all module admin pages.

3. Admin Menu Navigation

All features are under **Catalog** → **SKU Cross-Reference**:

Menu Item	Purpose
Manage Mappings	View, add, edit, delete cross-reference mappings in a searchable grid
Barcode Scanner Lookup	Dedicated page for barcode scanning with auto-submit and scan history
Import Mappings (CSV)	Bulk import code-to-SKU mappings from a CSV file

4. Managing Cross-Reference Mappings

The Mappings Grid

- **ID** — Auto-generated identifier
- **Magento SKU** — The product SKU this code maps to
- **UPC/MPN Code** — The barcode or part number
- **Code Type** — UPC, EAN, MPN, ISBN, or Custom
- **Manufacturer** — Optional manufacturer name
- **Active** — Whether this mapping is used in lookups
- **Updated** — Last modification date

The grid supports **full-text search**, column filters, sorting, pagination, and **CSV export**.

Adding a New Mapping

Field	Required	Description
Magento SKU	Yes	The product SKU in your catalog. A warning appears if the SKU doesn't exist.
UPC/MPN Code	Yes	The barcode or part number. You can scan directly into this field.
Code Type	No	Leave as Auto-Detect or select manually.
Manufacturer	No	Useful for MPN lookups with overlapping part numbers.
Notes	No	Internal notes about this mapping.
Active	No	Defaults to Yes. Set to No to disable without deleting.

Mass Actions

- **Delete** — Permanently remove selected mappings
- **Activate** — Enable selected mappings
- **Deactivate** — Disable selected mappings without deleting

5. Using the Barcode Scanner Lookup

How Scanning Works

- The input field has **auto-focus** — cursor is always ready
- Barcode scanners type fast (<50ms between keystrokes). The module detects this and **auto-submits**
- After each lookup, the input is **automatically cleared and refocused**
- Scanners that **paste** are also supported
- You can **type manually** and press **Enter**

Understanding Results

Result Type	Meaning	What You See
Direct SKU Match	Input matched a Magento SKU directly	Green banner + product details
Cross-Reference Match	Input matched a UPC/EAN/MPN mapping	Green banner + product card + all mapped codes
Partial SKU Match	Input partially matched one or more SKUs	Blue info banner + matching products table
No Match Found	Nothing found	Warning + "Create Mapping" button
Orphaned Mapping	Code exists but SKU deleted from catalog	Warning indicating missing product

Scan History & Quick Mapping

Every scan is logged in the **Scan History** table showing time, code, match type, SKU, product name, and action links. When a scan returns no match, a **"Create Cross-Reference Mapping"** button pre-fills the form with the scanned code.

6. Importing Mappings from CSV

Column	Required	Description
sku	Yes	Magento product SKU
code	Yes	UPC/EAN/MPN code
code_type	No	upc, ean, mpn, isbn, custom (auto-detected if omitted)

Column	Required	Description
manufacturer	No	Manufacturer name
description	No	Notes

Example CSV:

```
sku,code,code_type,manufacturer,description
ARDUINO-UNO-R3,7321453880122,upc,Arduino,Arduino Uno R3
ESP32-DEVKIT,ESP-WROOM-32,mpn,Espressif,ESP32 DevKit
RPI4-4GB,5056561800349,ean,Raspberry Pi,RPi 4B 4GB
```

- **Overwrite existing** — Check to update existing mappings (matched by code + code_type)
- Import reports counts of imported, skipped, and errored rows
- A **sample-import.csv** is included with the module

7. Admin Product Search Enhancement

When enabled in configuration, the module enhances the admin product grid search (**Catalog** → **Products**). Scanning a UPC barcode into the search box finds the product even though the barcode is not the SKU. This feature can be toggled independently via **Stores** → **Configuration** → **QKits** → **SKU Cross-Reference** → **Enhance Admin Product Search**.

8. Code Type Auto-Detection

Pattern	Detected Type	Example
12 digits	UPC (UPC-A)	012345678905
13 digits	EAN (EAN-13)	5056561800349
8 digits	UPC (UPC-E)	01234565
978/979 + 10 digits	ISBN (ISBN-13)	9780134685991
Other numeric	UPC (variant)	12345
Alphanumeric	MPN	ESP-WROOM-32

9. HAL 9000 Integration

Endpoint:

```
GET /admin/skucrossref/search/lookup?code=7321453880122&form_key=XXXX
```

Response (JSON):

```
{
  "success": true,
  "data": {
    "product_id": 42,
    "sku": "ARDUINO-UNO-R3",
    "name": "Arduino Uno R3 Board",
    "price": 29.95,
    "qty": 150,
    "match_type": "crossref",
    "matched_code": "7321453880122",
    "matched_code_type": "upc",
    "all_codes": [...]
  },
  "detected_type": "upc"
}
```

The endpoint requires an admin session and form_key. A valid license key must be configured or the endpoint returns an error message instead of results.

10. Tips & Best Practices

Data Entry

- Use the **barcode scanner** to scan directly into the Code field when adding mappings
- Add the **manufacturer** for MPN mappings with overlapping part numbers
- A product can have **multiple codes** — create a separate mapping for each
- Use **notes** to record where the code came from

Barcode Scanning

- Configure your scanner to send **Enter/Return** after each scan
- Keep **Scan History** visible to catch "no match" results

Disabling the Module

- To **temporarily disable**: Set **Enable Module** to **No** in Stores → Configuration → QKits → SKU Cross-Reference. All functionality stops but data is preserved.
- To **fully uninstall**: Use `composer remove qkits/module-sku-crossref` followed by Magento setup commands.

- The enable/disable toggle does **not** remove your mappings data — everything is preserved when you re-enable.

Maintenance

- Periodically review **orphaned mappings** (codes pointing to deleted products)
- **Deactivate** rather than delete mappings for discontinued products
- Use the grid's **Export** button to create backups of all mappings