

MCP SERVER

NO CODE

CLOUD HOSTED

Calorie & Macro Calculator MCP for AI Agents

Determine precise macro splits and total daily energy expenditure for effective diet planning

The Calorie & Macro Calculator MCP helps you figure out exactly what your body needs to eat for any goal—whether you're cutting weight, bulking up, or just maintaining. It takes your height, age, and activity level, calculates your energy needs (TDEE), and then precisely divides those calories into protein, carbs, and fat grams based on specific diets like keto or balanced eating. Plus, it structures that total intake into manageable meal plans.

A+ Quality Score 100/100

calories

macros

nutrition

fitness

diet



The connectivity layer between AI and the world's software.



Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.

— Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

`https://edge.vinkius.com/{token}/mcp`

Claude



Cursor



VS Code



Windsurf



Grok



Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1)
Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

Get started at cloud.vinkius.com — connect your AI agent in under 60 seconds.

Calorie & Macro Calculator MCP

4 tools available

Cloud-hosted on Vinkius

Figuring out nutrition isn't just counting random foods; it's about calculating your actual energy needs first. This MCP handles the math for you. It starts by determining your Basal Metabolic Rate using standard equations like Mifflin-St Jeor. From that baseline, it adjusts for how active you are—whether you're aiming to lose weight or gain muscle—to give you a Total Daily Energy Expenditure (TDEE). Next, based on your overall goals and diet type, the system calculates specific macro targets; this tells you exactly how many grams of protein, carbs, and fat you need. The last step is where it gets helpful: instead of just giving you numbers, it partitions those required macros into a structured meal breakdown, helping you plan meals that actually hit your goals. Connecting this MCP through Vinkius gives your AI client the full picture, turning vague diet plans into actionable daily guides.

Core Capabilities

01 — Determine Basal Metabolic Rate (BMR)

Calculates the minimum calories required to keep your body functioning at rest, based on your height, weight, age, and sex.

03 — Set Macronutrient Targets

Distributes a total caloric goal into precise gram targets for protein, carbohydrates, and fats, accommodating diets like keto or balanced eating.

02 — Calculate Total Daily Energy Expenditure (TDEE)

Adjusts your BMR using activity levels and specific dietary goals (like cutting or bulking) to find your total required daily calories.

04 — Generate Meal Plan Breakdown

Takes your overall macro goals and splits them into structured portions for multiple meals throughout the day.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/mcp/calorie-macro-calculator — connect your AI agent in three steps.

- 01 You provide your weight, height, age, and sex to calculate your Basal Metabolic Rate (BMR).
- 02 Next, you input your activity level and goals (e.g., bulking or cutting) so the system calculates your Total Daily Energy Expenditure (TDEE).
- 03 Finally, specifying your desired macro split (like keto or athlete), the MCP distributes calories and generates a structured meal breakdown for daily tracking.

The bottom line is, it takes complex nutritional formulas and turns them into clear, step-by-step numbers you can use to plan meals that meet your goals.

Built For

Anyone serious about nutrition who's tired of guessing their calorie needs or struggling to hit macro targets. This MCP is for people tracking specific dietary approaches, like low-carb or high-protein eating, and need a detailed plan that works with modern AI agents.

Fitness Enthusiast

Uses the calculator to adjust their intake based on training cycles, ensuring they hit specific protein goals for muscle growth.

Dietitian/Nutrition Coach

Quickly generates macro splits and meal plans for clients, verifying that complex dietary requirements (like keto) are met across multiple meals.

Weight Loss Client

Uses the system to calculate their TDEE when aiming for a calorie deficit, then uses the breakdown tool to ensure their daily diet is balanced and structured.

What Changes When You Connect

- 01 Stop guessing your caloric needs. The `calculate_bmr` tool tells you exactly how many calories you burn just by existing, providing a solid starting point.
- 02 Move beyond simple calorie counting. Use `calculate_tdee` to account for your actual activity level and whether you're bulking or cutting weight.
- 03 Get tailored nutrition plans. The system uses `distribute_macronutrients` to correctly set protein, carb, and fat targets for specific diets like keto or athlete eating.
- 04 Eliminate meal planning stress. Instead of just a target number, the `generate_meal_breakdown` tool partitions your macros into usable, structured meals you can actually eat.
- 05 Build better routines. By chaining these tools together, your AI agent creates a complete, actionable daily nutrition guide that feels genuinely tailored to your body.

Real-World Applications

Starting a new diet and not knowing where to begin

A user asks their agent: 'I want to start keto. What should I eat?' The agent first runs `calculate_bmr` using the user's metrics, then uses that number with `calculate_tdee` (assuming weight loss), and finally runs `distribute_macronutrients` for a keto split, giving the user actionable starting numbers.

Planning for a bulk cycle while training heavily

A fitness enthusiast inputs their goal to gain muscle. The agent uses `calculate_tdee` with an 'aggressive' activity multiplier. Then it runs `distribute_macronutrients` prioritizing high protein, and finally uses `generate_meal_breakdown` to give them four structured meals they can follow right away.

Troubleshooting macro overshooting on a specific day

A user hits their daily carb limit early. The agent helps by running the macros through ``generate_meal_breakdown`` to see how much protein or fat needs to be increased in subsequent meals to keep the total balanced.

Calculating maintenance calories after a weight change

After losing 10 pounds, a user doesn't know their new baseline. The agent uses ``calculate_bmr`` with the new metrics and then adjusts that result using ``calculate_tdee`` to set a safe, sustainable calorie target.

Patterns to Avoid

Ignoring activity levels

X AVOID

Setting only your BMR as your daily caloric goal. This is wrong because it doesn't account for movement like exercise or basic life functions.

✓ INSTEAD

Always calculate Total Daily Energy Expenditure (TDEE) using ``calculate_tdee`` first. That number accounts for your activity so you don't under-fuel yourself.

Focusing only on calories

X AVOID

Just tracking 2000 total calories without regard to the mix of nutrients. You might hit your calorie goal but still fail to build muscle or feel energized.

✓ INSTEAD

Use ``distribute_macronutrients`` immediately after setting your TDEE target. This locks in the proper percentage split for protein, carbs, and fat.

Receiving a list of numbers

X AVOID

Getting told: 'Eat 150g P / 200g C / 60g F.' This is just data; it doesn't tell you what to actually cook or eat.

✓ INSTEAD

Run ``generate_meal_breakdown`` on your macro targets. It takes those abstract numbers and turns them into a structured, multi-meal plan.

The Right Fit

Use this MCP if you need a systematic way to move from 'I want to lose weight' to 'Eat 40g protein at breakfast.' This tool is for people who understand that diet success depends on precise calculations. You must use it when setting goals like keto, because the `distribute_macronutrients` tool ensures your macro ratios are correct. However, don't use this if you just need a general idea of healthy eating—it's too precise for vague goal-setting. If all you

want is an estimate, start with simple online calculators. But if you're serious about training or specific diets, running the full flow (BMR -> TDEE -> Macros) through your AI client is essential.

Calorie & Macro Calculator: Solving Nutritional Planning Pain Points

Right now, figuring out what to eat involves clicking through multiple tabs and constantly cross-referencing formulas. You calculate your base burn rate in one place, then estimate your activity level in another, and finally, you manually try to fit the resulting macro totals into a meal plan—it's an exhausting copy/paste cycle that guarantees fatigue.

With this MCP, those steps collapse into a single, automated workflow. You give your agent your metrics, and it returns not just the total calories needed, but a detailed, structured breakdown of meals hitting every target. It turns hours of spreadsheet work into one clear answer.

Calorie & Macro Calculator: Optimizing Diet Goal Tracking

The biggest pain point is inconsistency. You might calculate your TDEE, but then struggle to maintain that balance across three meals and snacks without dipping into the wrong nutrient group. It's easy to miss a target by just one large meal.

This MCP solves that structural problem. By running `generate_meal_breakdown` against your macro targets, you get immediate, actionable portion sizes for every single eating occasion. You finally have a plan that actually works when life happens.

Calorie & Macro Calculator: 4 Tools for Nutrition Tracking

These tools let your AI agent calculate everything from your baseline energy burn rate to fully portioned daily meals, ensuring you hit every macro target.

#	TOOL	DESCRIPTION
01	<code>calculate_bmr</code>	Finds your Basal Metabolic Rate using weight, height, age, and sex.
02	<code>distribute_macronutrients</code>	Calculates the required grams of protein, carbs, and fat for a chosen diet type.
03	<code>generate_meal_breakdown</code>	Splits your total macro goals into specific portions across multiple meals.
04	<code>calculate_tdee</code>	Adjusts your daily energy needs based on activity level and dietary objectives.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U I'm 35 years old, 175cm, and weigh 80kg. I want to lose weight but still work out hard. What should my daily macros be?



Your Estimated Daily Targets:

- **TDEE Goal (Weight Loss):** ~2100 kcal/day
- **Macro Split Recommendation:**
 - * Protein: 140g
 - * Carbohydrates: 175g
 - * Fat: 63g

This split balances energy needs with muscle preservation while keeping you in a deficit. Let me know if you want this broken into four meals.

U Can you take these macros (P: 150g, C: 200g, F: 70g) and split them across four meals for a busy training day?



Optimized Meal Plan Breakdown:

- **Meal 1 (Breakfast):** P: 40g | C: 50g | F: 25g (Total: 635 kcal)
- **Meal 2 (Lunch):** P: 35g | C: 75g | F: 18g (Total: 635 kcal)
- **Meal 3 (Snack/Pre-workout):** P: 40g | C: 40g | F: 12g (Total: 490 kcal)
- **Meal 4 (Dinner):** P: 35g | C: 30g | F: 8g (Total: 460 kcal)

This keeps your energy stable and hits all targets.

- U** I'm planning a day around a keto diet. I need to eat 1900 calories. How many grams of fat, protein, and carbs do I need?



Keto Macro Distribution (Target: 1900 kcal):

NUTRIENT	GRAMS REQUIRED	% OF TOTAL CALORIES
Protein	125g	~26%
Carbohydrates	70g	~14%
Fat	138g	~60%

This provides a strict, balanced split ideal for ketosis.

Frequently Asked Questions

01 How does the Calorie & Macro Calculator MCP help me set my initial calorie goal?

It determines your Basal Metabolic Rate (BMR) first, which is the minimum energy you need just to stay alive. From there, it uses your activity level to calculate your Total Daily Energy Expenditure (TDEE), giving you a safe and accurate starting number for any diet.

02 I'm doing a specific diet like keto. Can the Calorie & Macro Calculator MCP figure out my macro targets?

Absolutely. You provide your total calorie goal, and the tool uses `distribute_macronutrients` to calculate precise gram amounts for protein, carbs, and fat, making sure they align with strict dietary guidelines like keto or athlete diets.

03 What if I get my macros right but struggle to plan meals? Does Calorie & Macro Calculator help?

Yes. Once you have your target grams, the MCP uses `generate_meal_breakdown` to structure those numbers into 3 or 4 distinct meal portions, giving you a clear, manageable eating schedule for the day.

04 Does Calorie & Macro Calculator work if I change my weight?

Yes. If your body metrics change (like losing weight), simply update your height and weight in the MCP. It recalculates both your BMR and TDEE based on those new numbers, keeping your plan accurate.

05 Is this MCP just for counting calories or can it handle advanced nutrition goals?







It handles everything from simple calorie tracking to complex macro distribution. It's designed for people who need a precise system that connects basal metabolic needs to actionable meal portions.

Go Live in 60 Seconds

Get your connection token from cloud.vinkius.com, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
 Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
 Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
 VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add <code>"calorie-macro-calculator": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → Add endpoint URL
 ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
 Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

-  **Ask ChatGPT** 
-  **Ask Claude** 
-  **Ask Perplexity** 
-  **Ask Gemini** 
-  **Ask Grok** 

READY TO CONNECT

Calorie & Macro Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and
start building. No SDK. No deployment. Just results.

[Start at cloud.vinkius.com](https://cloud.vinkius.com) →

vinkius.com · support@vinkius.com

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