Ek
EKSELANS BY ITS

CM HEAD END

FLEXIBLE AND INTELLIGENT MODULATION

CABECERA CM

CM 2SCI-TC

STATUS   STATUS CI
          2 X CAM

USB HOST

SAT IN
B1   SAT OUT

SAT IN
A1   SAT OUT

OUTPUT
STATUS

Ek
EKSELANS BY ITS

MIX

CM HEADEND:
FLEXIBLE AND INTELLIGENT MODULATION

Ekselans by ITS introduces the new CM modulation headend based on the latest state of the art digital signal processing technology. Having a large variety of equipment in modular format for easy scalability, the CM headend is having transmodulators enabling to process input signals both standard as well as high definition, and deliver them in in the output both in digital modulation as per DVB standards as well as in IP. Likewise, the range has digital encoders to modulate audio/video sources in COFDM, QAM as well as in IP.

TRANSMODULATORS AND DIGITAL ENCODERS

The CM headend has modules for the transmodulation of SD and HD digital signals, modulated according to the DVB Standard. Introducing from among the most noteworthy innovations and additions, are the Quad modules with 4 separate QPSK/8PSK inputs for free channels, with up to 4 multiplex COFDM or QAM (software selectable) outputs. Having also Twin modules with 2 separate QPSK/8PSK inputs, 2 Common Interface (CI) slots, and up to 3 COFDM or QAM multiplex outputs.

The equipment features the intelligent re-multiplexing of services which enables both the location of programmes in any of the multiplex outputs, as well as the manner of flexibly routing the services via the CAM modules connected to the CI slots in order to maximise the processing capacity thereof.

The modules likewise have USB ports so as to connect external memory devices to create local advertising and/or content channels.

Likewise, the CM headend is capped off with two modulators-digital encoders: the first with 4 HDMI inputs for HD audio-video sources and the second with 4 CVBS inputs for A/V sources with standard definition. In both cases the output modulation can be COFDM and QAM, software selectable.

CABEC

ERA CM

TRANSMODULATORS-STREAMERS AND ENCODERS WITH IP OUTPUT

The CM headend is complemented with IP output modules for the distribution of television content in the IPTV format. The range has the Quad and Twincon 4 and 2 input models respectively, these inputs being QPSK/8PSK/COFDM/QAM universal. The Twin module likewise has dual Common Interfaces for the decoding of encrypted channels.

The IP equipment enables the transmission of up to 16 streams in the output with RTP or UDP protocol and quality of service (QoS) selection.

The modules likewise have USB ports so as to connect external memory devices and to create local advertising and/or content channels. Likewise, the IP range is capped off with two modulators-digital encoders: the first with 4 HDMI inputs for HD audio-video sources and the second with 4 CVBS inputs for A/V sources with standard definition, in both cases with an IP output.

PROGRAMMING AND REMOTE CONTROL INTEGRATED IN THE POWER SUPPLY

The CM modules are programmed via a user-friendly Windows application, connecting for those purposes the PC or Tablet to the USB port included in the FA 524 power supply unit.

Likewise the FA 524 power supply unit includes an integrated remote control module which enables, once the FA 524 is connected to the Internet, to perform the remote control and programming of the headend. In this fashion, the installer can modify the input and output frequencies, change the modulated programmes and even change the contents of the connected USB memory devices so as to create local programmes, without the need of having to visit the installation.

CM 2S-T

- TWIN module. Up to 2 input transponders and up to 2 output muxes (non adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- COFDM output
- Flexible output. The 2 muxes can be placed in independent not-adjacent frequencies
- Flexible service remultiplexing on each output MUX
- PID remapping
- LCN insertion
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

Reference	CM 2S-T
Code	082023
Input	
Number of inputs	2 (A1, B1)
Input frequency	950 – 2150 MHz
Input level	43 – 83 dBµV
Bandwidth	36 MHz
Modulation	QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (by software)
Output frequency	45 – 862 MHz
Output MUXES	2 COFDM (not adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2 A + LNB
Temperature margin	0 – 40°

CM 2S-T

Ek
EKSELANS BY ITS

CM 3S-TC

- TRIPLE module. Up to 3 input SAT transponders and up to 4 output muxes (adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- COFDM / QAM programmable output
- Flexible service remultiplexing on each output MUX
- LCN insertion
- SID remapping
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524 / CM PR

Reference	CM 3S-TC
Code	082016
Input	
Number of inputs	4 (A1, B1, A2, B2)
Input frequency	950 – 2150 MHz
Input level	43 – 83 dBµV
Bandwidth	36 MHz
Modulation	QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (by software)
Output frequency	45 – 862 MHz
Output MUXES	3 COFDM or 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
QAM constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB or ethernet cable connected to power supply FA 524 or CM PR
Working voltage	5 Vdc
Current consumption	2,2 A + LNB
Temperature margin	0 – 40°

CM 3S-TC

CM 6S-TC

Reference	CM 6S-TC
Code	082020
Input	
Number of inputs	6 (A1, B1, A2, B2, A3, B3)
Input frequency	950 – 2150 MHz
Input level	43 – 83 dBµV
Bandwidth	36 MHz
Modulation	QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (by software)
Output frequency	45 – 862 MHz
Output MUXES	4 COFDM or 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
QAM constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2,6 A + LNB
Temperature margin	0 – 40°

- HEXA module. Up to 6 input transponders and up to 4 output muxes (non adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- COFDM/QAM programmable output
- Flexible service remultiplexing on each output MUX
- PID remapping
- LCN insertion
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

CM 6S-TC

ADEND

CM 3SCI-T

- Triple module. Up to 3 input transponders and up to 3 output COFDM (non adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- COFDM output
- Flexible output. The 3 muxes can be placed in independent not-adjacent frequencies
- Flexible service remultiplexing on each output MUX
- Flexible encrypted service remultiplexing through each CI slot
- Transparent processing and cancelling of EMM messages and CAT tables
- PID remapping
- LCN insertion
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

CM 3SCI-TC

Reference	CM 3S CI-T
Code	082024
Inputs	
Number of inputs	3 (A1, B1,C1)
Input frequency	950 – 2150 MHz
Input level	43 – 83 dBµV
Bandwidth	36 MHz
Modulation	QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Common Interface	2 x CI
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (por software)
Output frequency	45 – 862 MHz
Output MUXES	3 COFDM (non adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2,3 A + LNB + CAMs
Temperature margin	0 – 40°

CM 4AV-TC

- 4 audio/video inputs (CVBS)
- COFDM / QAM programmable output
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

Reference	CM 4AV-TC
Code	082003
Inputs	
Number of video inputs	4 x CVBS
Video resolution mode	PAL (720x576) / NTSC (720X480)
Video compression	MPEG 2
Number of audio inputs	4 x audio stereo / 0.5-2.5 Vpp
Sample rate	48 KHz
Audio compression	MPEG1, LAYER II
DVB processing	Insertion of table PAT, PNT, SDT, NIT
Configuration	Program name, SID, LCN, NETWORK NAME, TSD, ONID, NID, VERSION NIT, LCN, PID, PMT, PID VIDEO, PID AUDIO
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Output regulation	20 dB (by software)
Output frequency	170-230 MHz + 470-862 MHz
Output MUXES	1 COFDM or 1 QAM
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K / 8K
Constellation - FEC COFDM	QPSK/16QAM/64QAM - 1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
Constellation– S/R QAM	16, 32, 64, 128, 256 QAM (EN 300 429) – 4,00 - 6,96 Msps
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2 A
Temperature margin	0 – 40°

CM 4HD TC

- 4 HDMI inputs (HD)
- Resolution of each input up to 1080p
- COFDM / QAM programmable output
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

CM 4HD-TC

Reference	CM 4HD-TC
Code	082004
Inputs	
Number of inputs	4 x HDMI
Video resolution mode	720 p - 1080p
Video compression	H.264 - BIRATE 5-15 Mb/s
Sample rate audio	HDMI (32 kHz / 44.1 kHz / 48 kHz)
Audio compression	AAC-LC - bitrate 128-384 Kb/s
DVB processing	PAT, PMT, SDT, NIT, EIT
Configuration	Program/network name , SID, LCN, TSID, ONID, NID, EIT, versions, audio, video PIDs...
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Output regulation	20 dB (by software)
Output frequency	170-230 MHz + 470-862 MHz
Output MUXES	2 COFDM or 2 QAM (adjacents)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K / 8K
Constelaltion - FEC COFDM	QPSK/16QAM/64QAM - 1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
Constelaltion – S/R QAM	16, 32, 64, 128, 256 QAM (EN 300 429) – 4,00 - 6,96 Msps
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	3 A
Temperature margin	0 – 40°

CM 2STC-TC

Reference	CM 2STC-TC
Code	082017
Input	
Number of inputs	2 (A1, B1)
Input frequency	47-862 MHz / 950-2150 MHz
Input level	43 – 83 dBµV
Bandwidth	7/8/36 MHz
Modulation	64 QAM / QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (por software)
Output frequency	45 – 862 MHz
Output MUXES	3 COFDM o 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
QAM constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB or ethernet cable connected to power supply FA 524 or CM PR
Working voltage	5 Vdc
Current consumption	2 A + LNB
Temperature margin	0 – 40°

- Twin Universal module. Up to 2 input SAT transponders / TER & CABLE muxes and up to 3 output COFDM or 4 QAM muxes (adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- USB player for creating local programs
- COFDM / QAM programmable output
- Flexible service remultiplexing on each output MUX
- LCN insertion
- SID Remapping
- Progamming via PC software (CM management)

CM 2STC-TC

CM 2STC CI TC

- Twin Universal module. Up to 2 input SAT transponders / TER & CABLE muxes and up to 3 output COFDM or 4 QAM muxes (adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- USB player for creating local programs
- COFDM / QAM selectable output
- Flexible service remultiplexing on each output MUX
- Flexible encrypted service remultiplexing through each CI slot
- Transparent processing and cancelling of EMM messages and CAT tables
- LCN insertion
- SID Remapping
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524 / CM PR

Reference	CM 2STC CI-TC
Code	082012
Inputs	
Number of inputs	4 (A1, B1, A2, B2)
Input frequency	47-862 MHz / 950-2150 MHz
Input level	43 – 83 dBµV
Bandwidth	7/8/36 MHz
Modulation	64 QAM / QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Common Interface	2 x CI
Output	
Number of outputs	1 + loop-through (–1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (por software)
Output frequency	45 – 862 MHz
Output MUXES	3 COFDM o 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
QAM constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB or ethernet cable connected to power supply FA 524 or CM PR
Working voltage	5 Vdc
Current consumption	2 A + LNB + CAMs
Temperature margin	0 – 40°

CM 4STC-TC

Reference	CM 4STC-TC
Code	082013
Input	
Number of inputs	4 (A1, B1, A2, B2)
Input frequency	47-862 MHz / 950-2150 MHz
Input level	43 – 83 dBµV
Bandwidth	7/8/36 MHz
Modulation	64 QAM / QPSK – 8PSK
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Regulation	20 dB (por software)
Output frequency	45 – 862 MHz
Output MUXES	3 COFDM o 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
COFDM modulation mode	2K
COFDM constellation	QPSK / 16QAM / 64QAM
QAM constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Various	
Programming system	PC software "CM management" through USB or ethernet cable connected to power supply FA 524 or CM PR
Working voltage	5 Vdc
Current consumption	2,6 A + LNB
Temperature margin	0 – 40°

- Quad Universal module. Up to 4 input SAT transponders / TER & CABLE muxes and up to 3 output COFDM or 4 QAM muxes (adjacent)
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- Double USB player for creating local programs
- COFDM / QAM programmable output
- Flexible service remultiplexing on each output MUX
- LCN insertion
- SID Remapping
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524 / CM PR

CM 4STC-TC

Ek
EKSELANS BY ITS

CM 4STC-IP

- QUAD module. Up to 4 input transponders
- Universal inputs DVB-T / T2 / C / S / S2
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- Double USB player for creating local programs
- IP output
- RTP / UDP Protocol
- Quality of service selection (QoS)
- Up to 16 output streams
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

Reference	CM 4STC-IP
Code	082005
Inputs	
Number of inputs	4 (A1, B1, A2, B2)
Input frequency	47-862 MHz
	950 – 2150 MHz
Input level	43 – 83 dBµV
Bandwidth	36 MHz
Modulation type	QPSK – 8PSK – COFDM – QAM
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Output	
Number of outputs	1
Protocol	Multicast IP UDP / RTP
Number of streams	Up to 16 simultaneous streams (100 Mbps)
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	¿???????????
Temperature margin	0 – 40º

CM 4STC-IP

CM 2STC CI-IP

Reference	CM 2STC CI IP
Code	082006
Inputs	
Number of inputs	2 (A1, B1)
Input frequency	47-862 MHz
	950 – 2150 MHz
Input level	43 – 83 dBµV
Bandwidth	36 MHz
Modulation type	QPSK – 8PSK – COFDM – QAM
Remote power	13V / 18 V / 22 KHz / DiSEqC (A/B/C/D)
Common Interface	2 x CI
Output	
Number of outputs	1
Protocol	Multicast IP UDP / RTP
Number of streams	Up to 16 simultaneous streams (100 Mbps)
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2A
Temperature margin	0 – 40°

- Twin module. Up to 2 input transponders
- Individual control of each tuner 13V/18V – 22 KHz – DiSEqC (A/B/C/D)
- USB player for creating local programs
- Double common interface for 2 CAMs
- IP Output
- Up to 16 output streams
- RTP / UDP Protocols
- Quality of service selection (QoS)
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

CM 2STC CI-IP

CM 4AV-IP

- 4 audio/video inputs (CVBS)
- IP output
- RTP / UDP Protocol
- Quality of service selection (QoS)
- Up to 16 output streams
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

Reference	CM 4HD-IP
Code	082008
Inputs	
Number of inputs	4 x HDMI
Video resolution mode	720 p - 1080p
Video compression	H.264 - BIRATE 5-15 Mb/s
Sample rate audio	HDMI (32 kHz / 44.1 kHz / 48 kHz)
Audio compression	AAC-LC - bitrate 128-384 Kb/s
DVB processing	PAT, PMT, SDT, NIT, EIT
Configuration	Program/network name , SID, LCN, TSID, ONID, NID, EIT, versions, audio, video PIDs...
Output	
Number of outputs	1
Protocol	Multicast IP UDP / RTP
Number of streams	Up to 16 simultaneous streams (100 Mbps)
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2 A
Temperature margin	0 – 40°

CM 4AV-IP

CM 4HD-IP

Reference	CM 4HD-IP
Code	082008
Inputs	
Number of inputs	4 x HDMI
Video resolution mode	720 p - 1080p
Video compression	H.264 - BIRATE 5-15 Mb/s
Sample rate audio	HDMI (32 kHz / 44.1 kHz / 48 kHz)
Audio compression	AAC-LC - bitrate 128-384 Kb/s
DVB processing	PAT, PMT, SDT, NIT, EIT
Configuration	Program/network name , SID, LCN, TSID, ONID, NID, EIT, versions, audio, video PIDs...
Output	
Number of outputs	1
Protocol	Multicast IP UDP / RTP
Number of streams	Up to 16 simultaneous streams (100 Mbps)
Various	
Programming system	PC software "CM management" through USB cable connected to power supply FA 524
Working voltage	5 Vdc
Current consumption	2 A
Temperature margin	0 – 40°

- 4 HDMI inputs (HD)
- Resolution of each input up to 1080p
- IP output
- RTP / UDP Protocol
- Quality of service selection (QoS)
- Up to 16 output streams
- Progamming via PC software (CM management)
- Built-in remote control inside each module. Management via power supply FA 524

CM IP TC

- Up to 15 IP Unicast / Multicast input services
- Supported protocols: SPTS / MPTS, UDP / RTP, SIP, QoS
- Programable QAM/ COFDM output (Up to 4 output MUX)
  Flexible remultiplezation of services on any of the output MUX
- SID remapping
- LCN function
- Programming through CM Management Software via connection to FA 524 / CM PR
- Integrated remote control on the FA 524 PSU by using the CM KEY

Reference	CM IP-TC
Code	082018
Input	
Connector	Fast ethernet 100 Mbps
Routing scheme	Unicast / multicast
Number of maximum services	15 (SPTS / MPTS)
Supported protocols	IEEE 802.3, SPTS/MPTS, UDP, RTP, QoS
IP assignment	DHCP / Static
Output	
Number of outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Output regulation	20 dB (by software)
Output frequency	45 – 862 MHz
MUX at output	4 COFDM o 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
Mode	2K
COFDM Constellation	QPSK / 16QAM / 64QAM
QAM Constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Others	
Local management	"CM management" PC Software by USB cable connected to FA 524 power supply or CM PR programming device
Remote management	"CM management" PC Software by Ethernet cable connected to FA 524 and with CM KEY previous activation
Feeding	5 Vdc
Consumption	1,8 A
Temperature range	0 – 40 ºC

CM IP-TC

CM IP CI-TC

Reference	CM IP CI-TC
Code	082019
Input	
Connector	Fast ethernet 100 Mbps
Routing scheme	Unicast / multicast
Number of maximum services	15 (SPTS / MPTS)
Supported protocols	IEEE 802.3, SPTS/MPTS, UDP, RTP, QoS
IP assignment	DHCP / Static
Common interface	
Number of slots CI	2
functionalities	CAT delete/EMM and Watchdog
Output	
Outputs	1 + loop-through (-1,5 dB)
Maximum output level	95 dBµV
Output regulation	20 dB (by software)
Output frequency	45 – 862 MHz
MUX at output	3 COFDM o 4 QAM (adjacent)
Channel bandwidth	7 MHz (VHF) / 8 MHz (UHF)
Mode	2K
COFDM Constellation	QPSK / 16QAM / 64QAM
QAM Constellation	16, 32, 64, 128, 256 QAM
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval	1/4, 1/8, 1/16, 1/32
MER	> 35dB
Others	
Local management	"CM management" PC Software by USB cable connected to FA 524 power supply or CM PR programming device
Remote management	"CM management" PC Software by Ethernet cable connected to FA 524 and with CM KEY previous activation
Feeding	5 Vdc
Consumption	1,950 A
Temperature range	0 – 40 ºC

- Up to 15 IP Unicast / Multicast input services
- Supported protocols: SPTS / MPTS, UDP / RTP, SIP, QoS
- Programable QAM/ COFDM output (Up to 3 output MUX)
  Flexible remultiplezation of services on any of the output MUX
- SID remapping
- LCN function
- Programming through CM Management Software via connection to FA 524 / CM PR
- Integrated remote control on the FA 524 PSU by using the CM KEY

CM CI-TC

FA 524

- High-efficiency power supply
- With protection fuses against mains overload
- It allows the programming and remote control of the full headend

REFERENCE	FA 524
Code	080003
Input voltage	90-253 Vcc
Input frequency	50-60 Hz
Output voltage	24 Vdc
Maximum power	5A
Potencia máxima	120W
Type	Modular
Working temperature	0-45°
Programming mode	USB Connector
Programación	Via PC
Módulo de telecontrol	RJ45 Connector

FA 524

CM PR / FA 55

REFERENCE		CM PR
Code	-	082014
Ports	-	Ethernet, USB (Tipo B)
Feeding	-	14 PIN HE bus.
Dimensions	mm	115x28x48

REFERENCE		FA 55
Code	-	082010
Feeding	Vac / Hz	100-240 / 46-63
Output voltage	Vdc	5
Max. output current	mA	5000

- It allows the programming of CM Headend modules.
- Programming via CM Management (USB port).
- Programming via CM Management in remote (LAN / Internet).
- Feeding from CM module already fed via FA 55 PSU.

CM PR
+
FA 55

CM KEY

- CM Key allows the remote connection to the power supply FA 524 through the CM Management software (PC Software that allows the programming of the CM Headend via USB cable or remotely). As it is linked to the power supply, it's possible to have access to all the modules connected to the power supply only if connected to the internet. It's needed a user key and a password to identify it on the remote server.

CM HEADEND

CM KEY
Remote management key

EKSELANS BY ITS