TEMPERATURE CONTROLLERS

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COMAT SRL - Via Primo Maggio, 89 - 20049 CONCOREZZO (MB) - Phone +39 039 2916500 - Fax. +39 039 6210153 - sales@comat.it

GENERAL INFORMATION

The temperature controller allows to realize a precision temperature control of hot runner systems, in order to obtain a correct transformation of plastics.

The temperature controllers MX ed ME are the result of 25 age of experience of the COMAT in the sector of the hot runners and insulated runner.

All the temperature controllers commercialised satisfy requirement essential of directives CEE and are consistent to the international norms of the field.

Moreover each temperature controller , and each its module, are univocally identified by a serial number, in order to allow their traceability.

The temperature controllers MX available are:

- MX02: the management concurs of 2 zones of control
- MX04: the management of 4 zones of control concurs

The temperature controllers ME available are:

- ME04: to control 4 zones of controls
- ME08: to control 8 zones of controls
- ME12: to control 12 zones of controls
- ME16: to control 16 zones of controls

CHARACTERISTICS

Every temperature controller comes supplied with the cable for the connecting the main frame to the network, complete with CE plug, with cables of power and thermocouple complete of connectors and with the respective fuses lodged inside of the main frame.

The main common characteristic of the temperature controllers MX and ME are:

- temperature range 0 a 500 °C
- thermocouple type J (Fe-Co)
- zero crossing load control
- protection on ingress thermocouple
- compensazione giunto freddo
- automatic or manual mode
- Soft-start e Auto-tuning functions
- management of the alarms completes (for example signaling of interrupted thermocouple and thermocouple inverted)

OPTIONS AVAILABLE FOR ME

- Kit for visual and sound alarm

NOTE

The quote indicated in this catalogue are expressed in mm, with the exception of when various indicated.

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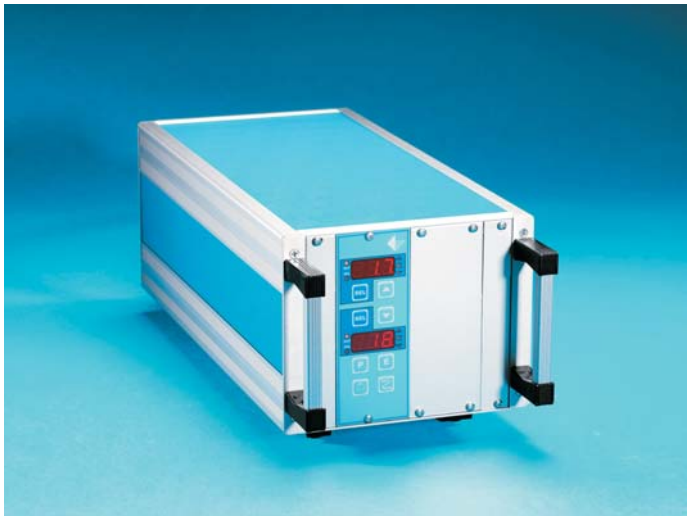

TEMPERATURE CONTROLLER MX02

EQUIPMENT
The temperature controller is made of 1 main frame, 1 main module UCMX and 1 feeding cable.
The main frame is made up of 1 main switch, 1 power and thermocouple cable complete with connector at 10 terminal to be mounted on the mould (L=4), 1 fuse holder.
The feeding cable 230 V (mono-phase) , length 4 m, is completed of socket CE tripolare from 16 A.

CHARACTERISTICS
Besides the common characteristics to the temperature controllers MX and ME already “Technical Notes” brought back in the page, mark it that:
- the temperature controller MX02 concourse the management of 2 zones of control
- the maximum load permissible total is 3680 W (16 A)
- dimension of the temperature controller: 175X150X440

MODULE UCMX
Each module UCMX allows to control 2 differents zone of control, and it is made up of some function keys that allows to program the typical parameters of the temperature controller.
Each zone is made up of 1 display and some warning light that show:
- the temperature compared to the set-point
- if the zone is supplying power
- if a parameter is changing

The display of each zone shows:
- the real temperature in automatic mode
- the output power percentage in manual mode
- information during programming and when an alarm is actived

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TEMPERATURE CONTROLLER MX04

EQUIPMENT

The temperature controller is made up of 1 main frame, 2 main modules UCMX, 1 feeding cable, 1 power cable, 1 thermocouple cable.
The main frame is made up of 1 main switch, 1cooling fan for ventilation, 2 sockets for power and thermocouple cables, 1 fuse holder.
The 2 power and thermocouple cable, length 4 m, complete with connectors 10 terminal to be mounted on the mould and connect at the temperature controller.
The feeding cable 230 V (mono-phase) , length 4 m, is complete of socket CE tripolare da 16 A.

CHARACTERISTICS

Besides the common characteristics to the temperature controllers MX and ME already “Technical Notes” brought back in the page, mark it that:
- the temperature controller MX02 concurs the management of 4 zones of control
- the maximum load permissible total is 3680 W (16 A)
- dimension of the temperature controller: 245X150X440

MODULE UCMX

Each module UCMX allows to control 2 differents zone of control, and it is made up of some function keys that allows to program the typical parameters of the temperature controller.
Each zone is made up of 1 display and some warning light that show:
- the temperature compared to the set-point
- if the zone is supplying power
- if a parameter is changing

The display of each zone shows:
- the real temperature in automatic mode
- the output power percentage in manual mode
- information during programming and when an alarm is actived

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ME04 / ME08 Temperature controllers ME

TEMPERATURE CONTROLLER ME04

EQUIPMENT

The temperature controller is made up of 1 main frame, 1 main module UPME, 1 module UCME, 3 blank panels, 1 feeding cable, 1 power cable and 1 thermocouple cable.
The main frame is made up of 1main switch, 1cooling fan for ventilation, 2 socket for power and thermocouple cable, 3 warning lights (one for each phase), 2 fuse holders, 1 contact for the external alarm, 1 socket 220 V for power supply an external alarm and 1 serial tap RS232 for software updating.
The power cable, length 4 m, gray colour, is made up of connectors to 16 poles to connect at the temperature controller and connector to 10 poles to connect at the mould.
The thermocouple cable, length 4 m, blue colour, is made up of connectors to 16 poles to connect at the temperature controller and connectors 10 poles to connect at the mould.
The feeding cable 400 V (three-phase + neutral + ground), of length 4 m, is made up of a socket CE pentapolare from 16 A.

CHARACTERISTICS

Besides the common characteristics to the temperature controllers MX and ME already “Technical Notes” brought back in the page, mark it that:
- the temperature controller ME04 concurs the management of 4 zones of control
- the maximum load permissible total is 3680 W (16 A)
- the temperature controller ME04 can be modified in ME08 buying a module UCME and power and thermocouple cables with connector to 16 poles to connect at the mould.
- dimension of the temperature controller: 450X160X480

TEMPERATURE CONTROLLER ME08

EQUIPMENT

The temperature controller has the same equipment of the ME04 with the exception of the fact that:
- has 2 modules UCME e 2 blank panel
- the power and thermocouple cable to connect at the temperature controller and at the mould have connectors to 16 poles

CHARACTERISTICS

The temperature controller has the same characteristics of the ME04 with the exception of the fact that:
- the temperature controller ME08 concurs the management of 8 zones of control

The illustrated image is reported to a temperature controller ME16

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ME12 / ME16 Temperature controllers ME

TEMPERATURE CONTROLLER ME12

EQUIPMENT

The temperature controller is made up of 1 main frame, 1 main module UPME, 3 module UCME, 1 neutral panel, 1 feeding cable, 1 power cable and 1 thermocouple cable.

The main frame is made up of 1 main switch, 1 cooling fan for ventilation, 2 socket for connectors power and thermocouple cable, 3 warning light, 2 fuse holders, 1 contact for the management of external alarm, 1 socket 220 V for power supply an external alarm, 1serial tap RS232 for software updating.

The power cable, (length 4 m, gray colour), is made up of connectors to 32 poles to connect at the temperature controller and connector to 24 poles to connect at the mould.

The thermocouple cable, (length 4 m, blue colour), is made up of connectors to 32 poles to connect at the temperature controller and connector to 24 poles to connect at the mould.

The feeding cable 400 V (three-phase + neutral + ground), of length 4 m, is made up of a socket CE pentapolare from 32 A.

CHARACTERISTICS

Besides the common characteristics to the temperature controllers MX and ME already “Technical Notes” brought back in the page, mark it that:

- the temperature controller ME12 concurs the management of 12 zones of control
- the maximum load permissible total is 7320 W (32 A) for phase and 3680W (16 A) for zone
- the temperature controller ME12 can be modified in ME16 buying a module UCME and power and thermocouple cables with connector to 36 poles to connect at the mould.
- dimension of the temperature controller: 450X160X480

TEMPERATURE CONTROLLER ME16

EQUIPMENT

The temperature controller has the same equipment of the ME12 with the exception of the fact that:

- has 4 modules UCME and without blank panel
- the power and thermocouple cable to connect at the temperature controller and at the mould have connectors to 32 poles

CHARACTERISTICS

The temperature controller has the same characteristics of the ME16 with the exception of the fact that:

- the temperature controller ME16 concurs the management of 16 zones of control

The illustrated image is reported to a temperature controller ME16

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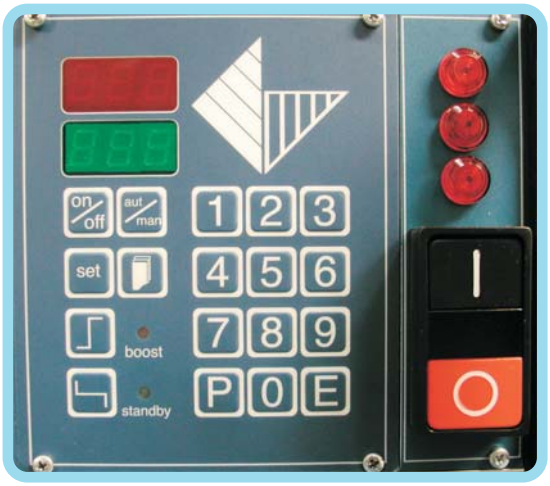

MAIN MODULE UPME

The main module is made up of 2 display (green colour and red colour), a key-depression keyboard and some function keys that allow to program the typical parameters of the temperature controller.
The temperature controller ME has some specific functions that are here describe.

Soft-start
Function that allow an initial uniform heating of the resistance that must be checked, to avoid thermal shock and eventually to eliminate the present humidity.

Stand-by
This function is common for all active zones, and it starts if they are in automatic mode.
Funzione che permette un abbassamento simultaneo della temperatura sino ad un valore pre-impostato, utile per evitare lo spegnimento completo del sistema durante fermi-macchina temporanei.

Boost
Function that allow an simultaneous elevation of the temperature of a value pre-impostato. it is useful to increase temporary the temperature in phase of starter.

Auto-tuning
Function that allows to carry out a new automatic calibration regarding the cargo to control.
This function allows to make an automatic calibration of each zone compared to the load that has to control.

Plug and Play
This function allows the main module UPME to recognise automatically which modules UCME are present in the temperature controller.

Alarms
The main module allows of manage various type of alarms, whether relative at the temperature controller or at the zones in control

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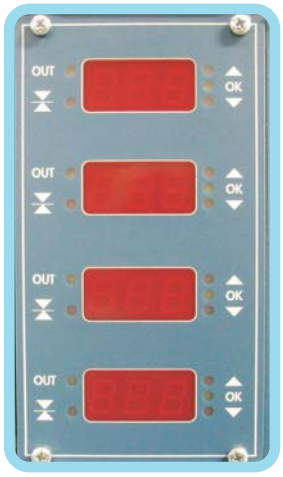

MODULE UCME

Each module UCME controls 4 zones.

Each zone is made up of 1 display and some warning light that show:
- the temperature compared to the set-point
- if the zone is supplying power
- if a parameter is changing

The display of each zone shows:
- the real temperature in automatic mode
- the output power percentage during programming
- information if an alarm is acticved

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CODIFIES ARTICLES FOR TEMPERATURE CONTROLLERS MX / ME

Example of orders of complete temperature coantroller MX and ME

Code	Description	Q.ty
CENTRALINA MX A 2 ZONE MONOFASE COMPLETA		
1TMX0200	main frame MX a 2 zone	1
CENTRALINA MX A 4 ZONE MONOFASE COMPLETA		
1TMX0400	main frame MX at 4 zones	1
1TTCMX1010	cavo TC 10/10	1
1TPTMX1010	cavo PT 10/10	1
CENTRALINA ME A 4 ZONE TRIFASE COMPLETA		
1TME0408	main frame ME at 4/8 zones	1
1TUCME	module	1
1TUNME	blank panel	3
1TTCME1610	cable TC 16/10	1
1TPTME1610	cable PT 16/10	1
CENTRALINA ME A 8 ZONE TRIFASE COMPLETA		
1TME0408	main frame ME a 4/8 zones	1
1TUCME	module	2
1TUNME	blank panel	2
1TTCME1616	cable TC 16/16	1
1TPTME1616	cable PT 16/16	1
CENTRALINA ME A 12 ZONE TRIFASE COMPLETA		
1TME1216	main frame ME at 12/16 zones	1
1TUCME	module	3
1TUNME	blank panel	1
1TTCME3224	cable TC 32/24	1
1TPTME3224	cable PT 32/24	1
CENTRALINA ME A 16 ZONE TRIFASE COMPLETA		
1TME1216	main frame ME at 12/16 zones	1
1TUCME	module	4
1TTCME3232	cable TC 32/32	1
1TPTME3232	cable PT 32/32	1

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ACCESSORIES FOR TEMPERATURE CONTROLLERS MX / ME

Code	Description
1TUCME	Module
1TUNME	Blank panel Series ME
1TFUS16A	Fuse holders 16A for Series MX and ME
1TPTMX1010	Power cable for temperature controllers MX04
1TTCMX1010	Thermocouple cable for temperature controllers MX04
1TPTME1610	Power cable for temperature controllers ME04
1TPTME1616	Power cable for temperature controllers ME08
1TPTME3224	Power cable for temperature controllers ME12
1TPTME3232	Power cable for temperature controllers ME16
1TTCME1610	Thermocouple cable for temperature controllers ME04
1TTCME1616	Thermocouple cable for temperature controllers ME08
1TTCME3224	Thermocouple cable for temperature controllers ME12
1TTCME3232	Thermocouple cable for temperature controllers ME16
1T021	Kit for visual and sound alarm (temperature controllers ME)

Note

The accessories for the temperature controllers MX and ME can be ordered also separately from the temperature controllers.

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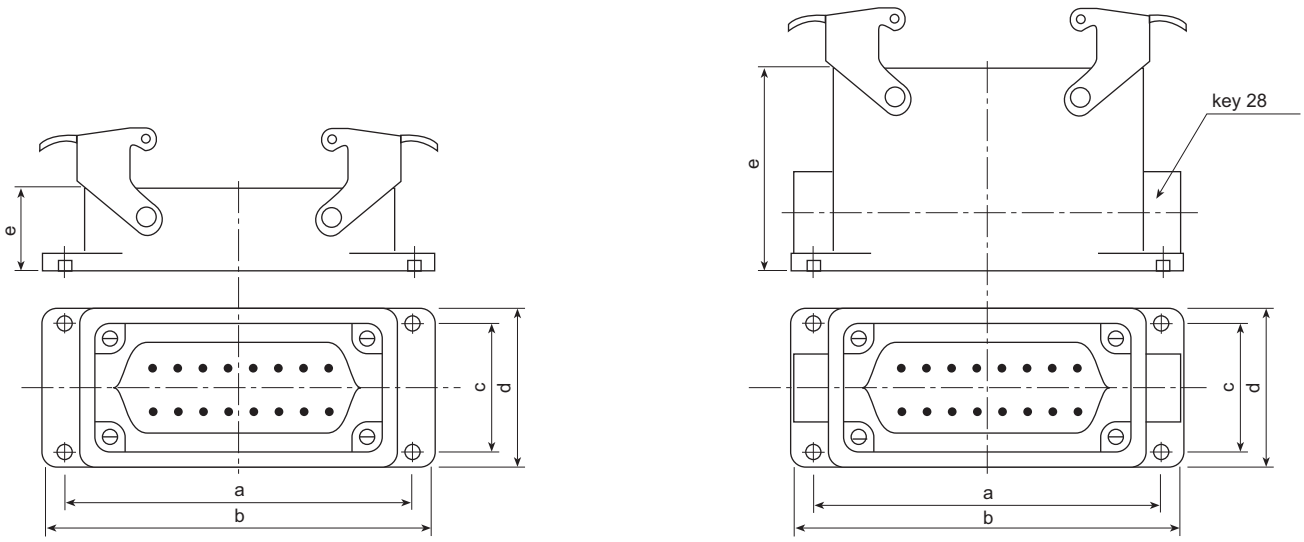

Code	Description	a	b	c	d	e	n° terminals
1THTSM10	male connector 10 terminals	83	93	32	44	27	10
1THTSF10	female connector 10 terminals	83	93	32	44	27	10
1THTSM16	male connector 16 terminals	103	114	32	44	27	16
1THTSF16	female connector 16 terminals	103	114	32	44	27	16
1THTSM24	male connector 24 terminals	130	140	32	44	27	24
1THTSF24	female connector 24 terminals	130	140	32	44	27	24
1THTSM32	male connector 32 terminals	110	124	65	80	30	32
1THTSF32	female connector 32 terminals	110	124	65	80	30	32

Code	Description	a	b	c	d	e	f	n° terminals
1THHTSM10	male connector high 10 terminals	82	93	40	52	51	71	10
1THHTSF10	female connector high 10 terminals	82	93	40	52	51	71	10
1THHTSM16	male connector high 16 terminals	105	117	45	56	65,5	87	16
1THHTSF16	female connector high 16 terminals	105	117	45	56	65,5	87	16
1THHTSM24	male connector high 24 terminals	132	144	45	56	65,5	87	24
1THHTSF24	female connector high 24 terminals	132	144	45	56	65,5	87	24

Note

Fixed connector base female for wiring T/C to mount on the mould.
Fixed connector base male for wiring resistances to mount on the stamp
To fix the standard connector use the screws M4.
To fix the connector "high" use screws M5.

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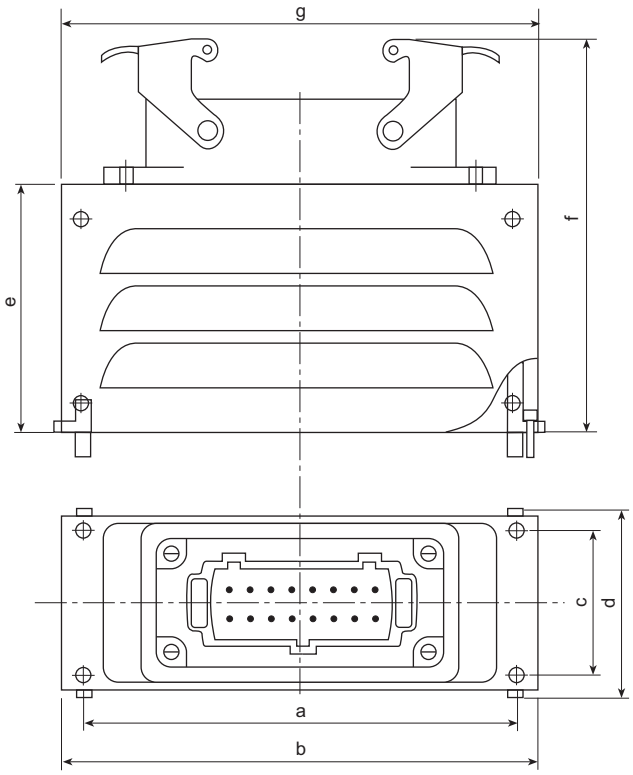
SC1

Connectors block



Code	Description	a	b	c	d	e	f	g	n° terminals
1TSC110	connector block male/female 1 x 10	111	133	38	68	74	119	123	10
1TSC116	connector block male/female 1 x 16	131	153	38	68	74	119	143	16
1TSC124	connector block male/female 1 x 24	158	180	38	68	74	119	170	24
1TSC132	connector block male/female 1 x 32	131	153	71	107	74	119	143	32

Note

The distance "a" e "c" are refereed at the fixing of the connector block on the mould.
The screw M6, for to fix the box on the mould, will not be supplied.
The connectors must be ordered separately.

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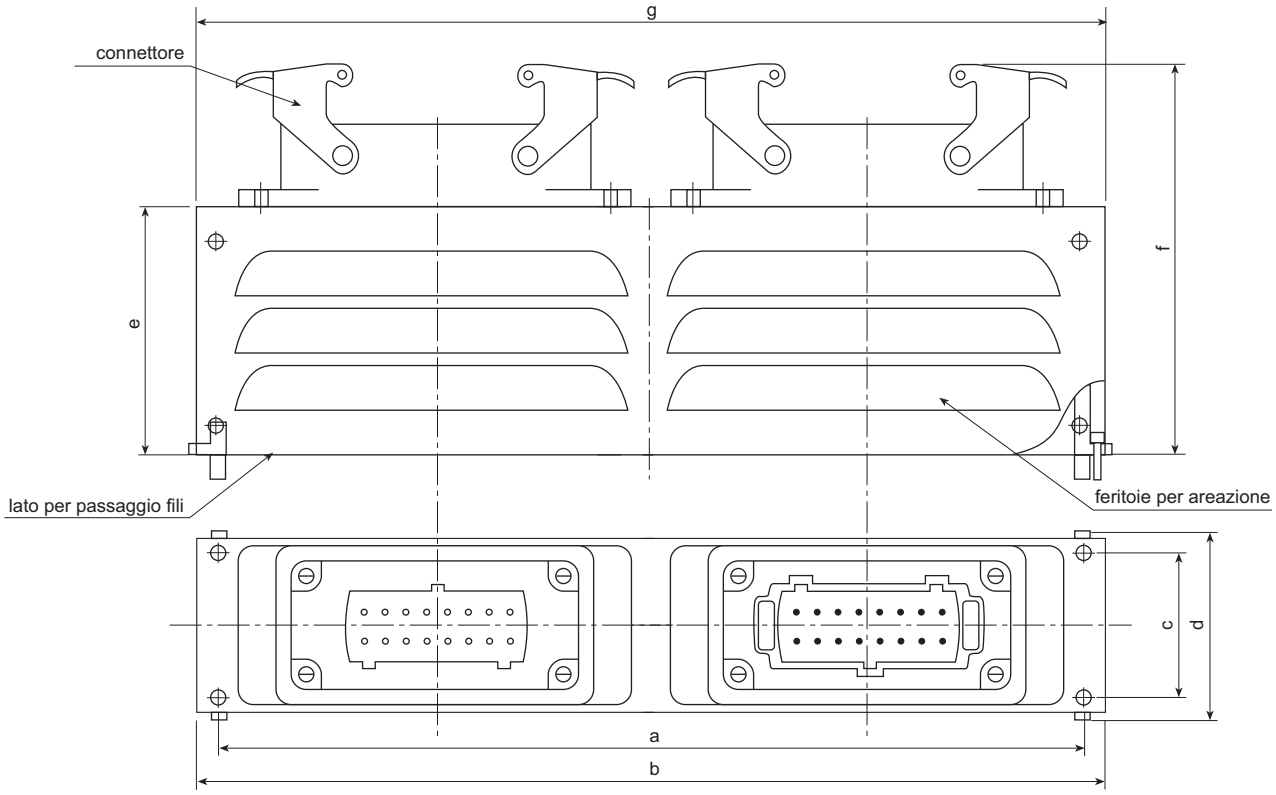

Code	Description		a	b	c	d	e	f	g	n° terminals
1TSC210	connector block male/female	2 x 10	229	251	38	68	74	119	241	10
1TSC216	connector block male/female	2 x 16	269	291	38	68	74	119	281	16
1TSC224	connector block male/female	2 x 24	323	345	38	68	74	119	335	24

Note

The distance "a" e "c" are refereed at the fixing of the connector block on the mould.
The screw M6, for to fix the box on the mould, will not be supplied.
The connectors must be ordered separately.

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