



Modular Jack Selection Guide



ERMEC, S.L. BARCELONA
C/ Francesc Teixidó, 22
E-08918 Badalona
(Spain)

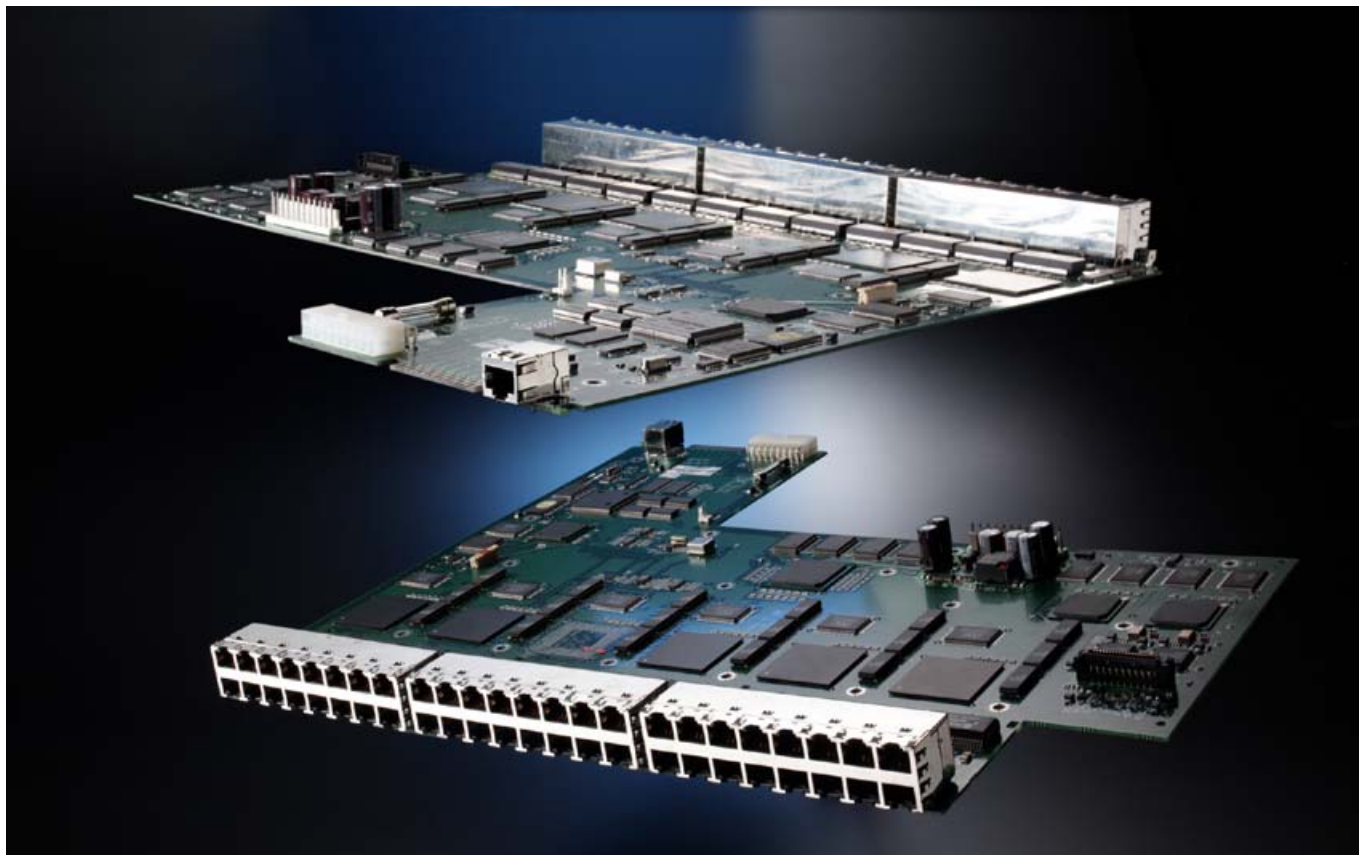
Tel.: (+34) 902 450 160
Fax: (+34) 902 433 088
info@ermec.com
www.ermec.com

ERMEC, S.L. MADRID
C/ Sagasta, 8, 1ª planta
E-28004 Madrid
(Spain)

PORTUGAL
portugal@ermec.com
BILBAO
bilbao@ermec.com



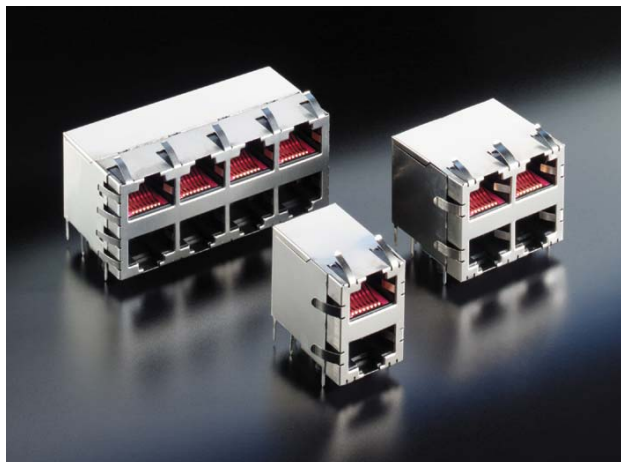
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Modular Jack connectors, a cornerstone of communications technology, have been used in the communications and information industry for many years. The main reasons for this are the simplicity and reliability of these products. Whether integrated in a simple telephone system, or in a gigabit application, Modular Jacks represent the standard for network connections.

Today's electronics system packages are getting smaller and smaller, while performance requirements continue to rise. As a result, applications that use modular jacks with integrated magnetics are becoming more popular. When the magnetic components – otherwise found as discrete components on the circuit board – are integrated, this reduces both, interference sensitivity and board surface requirements. The filter elements are integrated without any changes to the size of the jack housing.

This guide is aimed to give orientation throughout ERNI's entire modular jack product range and helps in finding the suitable solution for your application.



ERNI offers a large variety of standard Modular Jacks RJ11/RJ45:

- Without integrated magnetics
- Single Port
- Multi-port: stacked and ganged
- Right angled and vertical versions
- Low profile
- Couplers

- THT
- THR
- SMT
- CAT 3/4, 5, 5e
- LEDs



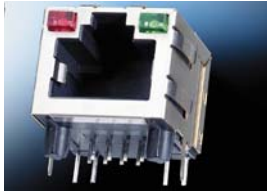
ERNI offers a large variety of Modular Jacks with integrated magnetics:

- Single Port
- Multi-port: ganged
- Right angled and vertical versions
- Low profile

- 10 BASE T
- 10/100 Mbit/s (Fast Ethernet)
- 10/100/1000 Mbit/s (Gigabit Ethernet)
- Power over Ethernet (PoE)
- Industrial Operating Temperature
- Lightning Protection GR-1089-Core
- THT
- LEDs

LED colors

Y = yellow
G = green
O = orange
R = red



Single Port - Right Angled, RJ45

Part Number	Series	Ports	10P10C	8P8C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	THR	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	RoHS	3D Model	2D Drawing
133152	MJR	1x1		●					●			●			●			●		●	●	●
133155	MJR	1x1		●		●	●	●	●			●			●			●		●	●	●
133167	MJR	1x1		●		●	●	●	●				●		●			●		●	●	●
133172	MJR	1x1		●		●	●	●	●				●		●			●		●	●	●
133268	MJLS	1x1		●	●	●		●	●			●			●			●		●	●	●
133271	MJLS	1x1		●	●	●	●	●	●			●			●			●		●	●	●
133288	MJLS	1x1		●	●	●	●	●			●	●			●			●		●	●	●
133489	MJLS	1x1		●	●	●	●	●			●	●			●			●		●	●	●
133602	MJLS	1x1		●	●	●		●			●	●			●			●		●	●	●
133611	MJLS	1x1		●	●	●		●			●	●			●			●		●	●	●
133744	MJE	1x1		●		●	●	●	●			●			●		Y-G		●	●	●	●
133745	MJE	1x1		●		●	●	●	●			●			●		G-Y		●	●	●	●
133746	MJE	1x1		●		●	●	●	●			●			●		G-G		●	●	●	●
133747	MJE	1x1		●		●	●	●	●			●			●		Y-Y		●	●	●	●
133748	MJE	1x1		●		●	●	●	●			●			●		O/G-O/G		●	●	●	●
133901	MJE	1x1		●		●	●	●	●			●			●		R-G		●	●	●	●
133902	MJE	1x1		●		●	●	●	●			●			●				●	●	●	●
133927	MJE	1x1		●		●	●	●	●			●			●		G/O-Y		●	●	●	●
133936	MJLS	1x1		●	●	●	●	●			●	●				●		●		●	●	●
203422	MJLS	1x1		●	●	●	●	●			●	●				●		●		●	●	●
203489	MJE	1x1		●		●	●	●		●		●			●				●	●	●	●
203490	MJLS	1x1		●	●	●		●			●	●				●		●		●	●	●

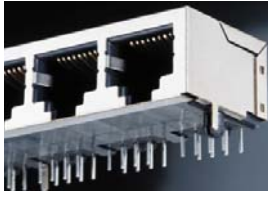


Single Port - Vertical, RJ45

Part Number	Series	Ports	10P10C	8P8C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	RoHS	3D Model	2D Drawing	
133183	MJV	1x1		●		●		●	●		●			●			n/a	n/a		●	●	●
133184	MJV	1x1		●		●		●	●			●		●			n/a	n/a		●	●	●
133188	MJV	1x1	●			●		●	●		●			●			n/a	n/a		●	●	●

Modular Jack Selection Guide

Standard Modular Jacks



Multi Port - Right Angled Ganged, RJ45

Part Number	Series	Ports	10P10C	8P8C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	RoHS	3D Model	2D Drawing
133195	MJR	1x8		●					●		●			●			●		●	●	●
133208	MJR	1x2		●		●	●	●	●		●			●			●		●	●	●
133209	MJR	1x4		●		●	●	●	●		●			●			●		●	●	●
133214	MJR	1x8		●		●	●	●	●		●			●			●		●	●	●
133215	MJR	1x8		●		●	●	●	●		●			●			●		●	●	●
133216	MJR	1x8		●		●	●	●	●		●			●			●		●	●	●
133218	MJR	1x4		●		●	●	●	●			●		●			●		●	●	●
133221	MJR	1x6		●		●	●	●	●			●		●			●		●	●	●
133222	MJR	1x6		●		●	●	●	●			●		●			●		●	●	●
133223	MJR	1x8		●		●	●	●	●			●		●			●		●	●	●
133225	MJR	1x8		●		●	●	●	●			●		●			●		●	●	●
133496	MJR	1x4		●		●	●	●	●				●	●			●		●	●	●
133539	MJR	1x8		●		●	●	●	●			●		●			●		●	●	●
133609	MJR	1x8		●		●	●	●	●				●	●			●		●	●	●
133616	MJR	1x8		●		●	●	●	●				●	●			●		●	●	●
133618	MJR	1x8		●		●	●	●	●		●			●			●		●	●	●
133638	MJR	1x2		●		●	●	●	●				●	●			●		●	●	●
133671	MJR	1x2		●		●	●	●	●			●		●			●		●	●	●
133726	MJR	1x4		●		●	●	●	●			●		●			●		●	●	●
133785	MJR	1x6		●		●	●	●	●				●	●			●		●	●	●
133786	MJR	1x12		●		●	●	●	●			●		●			●		●	●	●
133787	MJR	1x8		●		●	●	●	●			●		●			●		●	●	●
133919	MJR	1x4		●		●	●	●	●			●		●			●		●	●	●
133920	MJR	1x8		●		●	●	●	●			●		●			●		●	●	●
133921	MJR	1x2		●		●	●	●	●			●		●			●		●	●	●
203492	MJR	1x2		●		●	●	●	●			●		●			●		●	●	●



Multi Port - Vertical Ganged, RJ45

Part Number	Series	Ports	10P10C	8P8C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	RoHS	3D Model	2D Drawing
133775	MJV	1x4		●		●		●	●		●			●			n/a	n/a	●	●	●



Multi Port - Right Angled Stacked RJ45

Part Number	Series	Ports	10P10C	8P8C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	RoHS	3D Model	2D Drawing
133027	MJD	2x6		●		●		●	●			●		●			●	●	●	●	●
133029	MJD	2x6		●		●	●	●	●			●		●			●	●	●	●	●
133035	MJD	2x8		●		●	●	●	●			●		●			●	●	●	●	●
133037	MJD	2x8		●		●	●	●	●			●		●			●	●	●	●	●
133039	MJD	2x1		●		●	●	●	●			●		●			●	●	●	●	●
133041	MJD	2x2		●		●	●	●	●			●		●			●	●	●	●	●
133044	MJD	2x4		●		●		●	●			●		●			●	●	●	●	●
133046	MJD	2x4		●		●	●	●	●			●		●			●	●	●	●	●
133050	MJD	2x6		●		●	●	●	●				●	●			●	●	●	●	●
133051	MJD	2x1		●		●		●	●			●		●			●	●	●	●	●
133052	MJD	2x2		●		●		●	●			●		●			●	●	●	●	●
133053	MJD	2x3		●		●		●	●			●		●			●	●	●	●	●
133054	MJD	2x3		●		●	●	●	●			●		●			●	●	●	●	●
133076	MJD	2x6		●		●	●	●	●				●	●			●	●	●	●	●
133080	MJD	2x8		●		●	●	●	●			●		●			●	●	●	●	●
133673	MJD	2x3		●		●		●	●				●	●			●	●	●	●	●
133678	MJD	2x3		●		●		●	●				●	●			●	●	●	●	●



Multi Port - Vertical Stacked, RJ45

Part Number	Series	Ports	10P10C	8P8C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	RoHS	3D Model	2D Drawing
133190	MJV	2x4		●		●		●	●			●		●			n/a	n/a	●	●	●

Modular Jack Selection Guide

Standard Modular Jacks



Single Port - Right Angled, RJ11

Part Number	Series	Ports	6P6C	6P4C	6P2C	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	SMT	CAT 3/4	CAT 5	CAT 5e	Tray	T&R	LED	Tab-down	Tab-up	Panel Stops	RoHS	3D Model	2D Drawing
133146	MJR	1x1			●					●		●			●			●			●	●	●
133147	MJR	1x1			●					●		●			●			●		●	●	●	●
133148	MJR	1x1		●						●		●			●			●			●	●	●
133149	MJR	1x1		●						●		●			●			●		●	●	●	●
133150	MJR	1x1	●							●		●			●			●			●	●	●
133151	MJR	1x1	●							●		●			●			●		●	●	●	●
133623	MJLS	1x1	●			●	●	●	●	●		●			●			●			●	●	●
133719	MJLS	1x1	●			●	●	●	●		●	●			●			●			●	●	●
133776	MJR	1x1	●				●	●	●	●		●			●			●			●	●	●



Modular Coupler - RJ11 and RJ45

Part Number	Series	8P8C (RJ45)	6P6C (RJ11)	Shielded	CAT 3/4	CAT 5	RoHS	3D Model	2D Drawing
133414	MJC	●			●		●	●	●
133420	MJC		●	●	●		●	●	●
133421	MJC	●		●	●		●	●	●
133513	MJC	●		●		●	●	●	●

Modular Jacks with Integrated Filter Components



ERNI offers Integrated Magnetic RJ45 connectors for applications of different data rates, such as 10 Mbit/s, 10/100 Mbit/s (Fast Ethernet) and 10/100/1000 Mbit/s (Gigabit Ethernet). For example, Gigabit modular connectors are designed to accommodate today's demand for high-speed communication applications. Typical applications are telecom/datacom equipment, data storage, personal computers, network printers and peripheral equipment. For industrial use High Operating Temperature Jacks are available to serve the requirements of extended operating temperature (-40°C to +85°C) like in automations systems or test equipment.

These filtered connectors provide signal conditioning and increase emissions performance. By integrating into the connector, magnetic filtering components – which are usually found as discrete surface mount components on a PCB – increase PCB space and reduce manufacturing processes. ERNI Modular Jacks with Integrated Magnetics are specifically designed to be drop-in replacements for traditional modular jacks.

Integrated magnetic packages are designed to meet FCC and IEEE 802.3 requirements for performance and voltage isolation. Variable sizes and magnetic configurations allow for a wide variety of applications. ERNI Modular Jacks are available in standard PCB layouts and come in single and ganged port versions.



Single Port - Right Angled with Integrated Magnetics

Part Number	Magnetics Code	10 Mbit/s	10/100 Mbit/s	10/100 Mbit/s Power over Ethernet	10/100 Mbit/s High Operating Temp.	10/100 Mbit/s Lightning Protection	10/100/1000 Mbit/s	Ports	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	LED	Tab-down	Tab-up	Tube	RoHS	3D Model	2D Drawing
133723	M3D01		●					1x1		●	●	●	●				●	●		●
203150	M2A01	●						1x1		●	●	●	●				●	●		●
203151	M3B01		●					1x1		●	●	●	●				●	●		●
203176	M6A01			●				1x1		●	●	●	●				●	●		●
203189	M5B01						●	1x1		●	●	●	●				●	●		●
203191	M3D01		●					1x1		●	●	●	●	Y-G			●	●		●
203192	M3D01		●					1x1		●	●	●	●	Y-G			●	●		●
203198	M3D01		●					1x1		●	●	●	●	Y-G			●	●		●
203199	M3D01		●					1x1		●	●	●	●	G-Y			●	●		●
203200	M3D01		●					1x1		●	●	●	●	G-G			●	●		●
203201	M3D01		●					1x1		●	●	●	●	R-G			●	●		●
203202	M3D01		●					1x1		●	●	●	●	Y-Y			●	●		●
203203	M3D01		●					1x1		●	●	●	●	O/G-O/G			●	●		●
203211	M5B01						●	1x1		●	●	●	●	Y-G			●	●		●
203212	M5B01						●	1x1		●	●	●	●	G-Y			●	●		●
203213	M5B01						●	1x1		●	●	●	●	G-G			●	●		●
203214	M5B01						●	1x1		●	●	●	●	Y-Y			●	●		●
203215	M5B01						●	1x1		●	●	●	●	O/G-O/G			●	●		●
203217	M5B02						●	1x1		●	●	●	●				●	●		●
203224	M5B02						●	1x1		●	●	●	●	Y-G			●	●		●
203225	M5B02						●	1x1		●	●	●	●	G-Y			●	●		●
203226	M5B02						●	1x1		●	●	●	●	G-G			●	●		●
203227	M5B02						●	1x1		●	●	●	●	Y-Y			●	●		●
203228	M5B02						●	1x1		●	●	●	●	O/G-O/G			●	●		●
203267	M5A01						●	1x1		●	●	●	●				●	●		●
203273	L3D01					●		1x1		●	●	●	●				●	●		●
203278	M3D01		●					1x1		●	●	●	●	G-G			●	●		●
203281	M3D01		●					1x1		●	●	●	●				●	●		●
203290	H3D01				●			1x1		●	●	●	●	G-G			●	●		●
203292	M3D01		●					1x1		●	●	●	●	G-Y			●	●		●
203318	M6A01			●				1x1		●	●	●	●	Y-G			●	●		●
203319	M6A01			●				1x1		●	●	●	●	G-Y			●	●		●
203320	M6A01			●				1x1		●	●	●	●	G-G			●	●		●
203321	M6A01			●				1x1		●	●	●	●	G-R			●	●		●
203322	M6A01			●				1x1		●	●	●	●	O/G-O/G			●	●		●
203329	T3D01					●		1x1		●	●	●	●	Y-G			●	●		●
203330	T3D01					●		1x1		●	●	●	●	G-Y			●	●		●
203331	T3D01					●		1x1		●	●	●	●	G-G			●	●		●
203332	T3D01					●		1x1		●	●	●	●	G-R			●	●		●
203333	T3D01					●		1x1		●	●	●	●	O/G-O/G			●	●		●
203338	H3D01				●			1x1		●	●	●	●				●	●		●
203348	M5B01						●	1x1		●	●	●	●	Y-G		●	●	●		●
203349	M5B01						●	1x1		●	●	●	●	G-Y		●	●	●		●

Single Port - Right Angled with Integrated Magnetics

Part Number	Magnetics Code	10 Mbit/s	10/100 Mbit/s	10/100 Mbit/s Power over Ethernet	10/100 Mbit/s High Operating Temp.	10/100 Mbit/s Lightning Protection	10/100/1000 Mbit/s	Ports	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	LED	Tab-down	Tab-up	Tube	RoHS	3D Model	2D Drawing
203350	M5B01						●	1x1		●	●	●	●	G-G		●	●	●		●
203351	M5B01						●	1x1		●	●	●	●	G-R		●	●	●		●
203352	M5B01						●	1x1		●	●	●	●	O/G-O/G		●	●	●		●
203354	M3D01		●					1x1		●	●	●	●	Y-G		●	●	●		●
203355	M3D01		●					1x1		●	●	●	●	G-Y		●	●	●		●
203356	M3D01		●					1x1		●	●	●	●	G-G		●	●	●		●
203357	M3D01		●					1x1		●	●	●	●	G-R		●	●	●		●
203358	M3D01		●					1x1		●	●	●	●	O/G-O/G		●	●	●		●
203437	M5C03						●	1x1	●	●		●	●	G-Y	●		●	●		●
203503	M5C03				●			1x1		●	●	●	●		●		●	●		●



Single Port - Vertical with Integrated Magnetics

Part Number	Magnetics Code	10 Mbit/s	10/100 Mbit/s	10/100 Mbit/s Power over Ethernet	10/100 Mbit/s High Operating Temp.	10/100 Mbit/s Lightning Protection	10/100/1000 Mbit/s	Ports	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	LED	Tab-down	Tab-up	Tube	RoHS	3D Model	2D Drawing
203283	M3D01		●					1x1		●		●	●		n/a	n/a	●	●		●
203323	M3D01		●					1x1		●		●	●	Y-G	n/a	n/a	●	●		●
203324	M3D01		●					1x1		●		●	●	G-Y	n/a	n/a	●	●		●
203325	M3D01		●					1x1		●		●	●	G-G	n/a	n/a	●	●		●
203326	M3D01		●					1x1		●		●	●	G-R	n/a	n/a	●	●		●
203327	M3D01		●					1x1		●		●	●	O/G-O/G	n/a	n/a	●	●		●
203342	M5B01						●	1x1		●		●	●	Y-G	n/a	n/a	●	●		●
203343	M5B01						●	1x1		●		●	●	G-Y	n/a	n/a	●	●		●
203344	M5B01						●	1x1		●		●	●	G-G	n/a	n/a	●	●		●
203345	M5B01						●	1x1		●		●	●	G-R	n/a	n/a	●	●		●
203346	M5B01						●	1x1		●		●	●	O/G-O/G	n/a	n/a	●	●		●
203497	M3F01		●					1x1		●		●	●	Y-G	n/a	n/a	●	●		●
203501	H3D02				●			1x1		●		●	●		n/a	n/a	●	●		●



Multi Port - Right Angled Ganged with Integrated Magnetics

Part Number	Magnetics Code	10 Mbit/s	10/100 Mbit/s	10/100 Mbit/s Power over Ethernet	10/100 Mbit/s High Operating Temp.	10/100 Mbit/s Lightning Protection	10/100/1000 Mbit/s	Ports	Low Profile	Shielded	Panel Flanges	Grounding Pins	THT	LED	Tab-down	Tab-up	Tube	RoHS	3D Model	2D Drawing
203153	M2A01	●						1x2		●	●	●	●		●		●	●		●
203154	M3B01		●					1x2		●	●	●	●		●		●	●		●
203156	M3D01		●					1x2		●	●	●	●		●		●	●		●
203157	M2A01	●						1x4		●	●	●	●		●		●	●		●
203158	M3B01		●					1x4		●	●	●	●		●		●	●		●
203160	M3D01		●					1x4		●	●	●	●		●		●	●		●
203177	MM001			●				1x2		●	●	●	●		●		●	●		●
203184	M5B01						●	1x2		●	●	●	●		●		●	●		●
203185	M5B01						●	1x4		●	●	●	●		●		●	●		●
203218	M5B02						●	1x2		●	●	●	●		●		●	●		●
203219	M5B02						●	1x4		●	●	●	●		●		●	●		●
203272	M5B01						●	1x4		●	●	●	●	G-Y	●		●	●		●
203280	M6B01			●				1x2		●	●	●	●		●		●	●		●
203282	M3D01		●					1x4		●	●	●	●	Y-Y	●		●	●		●
203294	M3D01		●					1x4		●	●	●	●	Y-G	●		●	●		●
203295	M3D01		●					1x4		●	●	●	●	G-Y	●		●	●		●
203296	M3D01		●					1x4		●	●	●	●	G-G	●		●	●		●
203297	M3D01		●					1x4		●	●	●	●	G-R	●		●	●		●
203298	M3D01		●					1x4		●	●	●	●	R-G	●		●	●		●
203299	M3D01		●					1x4		●	●	●	●	O/G-O/G	●		●	●		●
203301	M5B01						●	1x4		●	●	●	●	Y-G	●		●	●		●
203302	M5B01						●	1x4		●	●	●	●	G-G	●		●	●		●
203303	M5B01						●	1x4		●	●	●	●	G-R	●		●	●		●
203304	M5B01						●	1x4		●	●	●	●	O/G-O/G	●		●	●		●
203306	M5B01						●	1x2		●	●	●	●	Y-G	●		●	●		●
203307	M5B01						●	1x2		●	●	●	●	G-Y	●		●	●		●
203308	M5B01						●	1x2		●	●	●	●	G-G	●		●	●		●
203309	M5B01						●	1x2		●	●	●	●	G-R	●		●	●		●
203310	M5B01						●	1x2		●	●	●	●	O/G-O/G	●		●	●		●
203312	M3D01		●					1x2		●	●	●	●	Y-G	●		●	●		●
203313	M3D01		●					1x2		●	●	●	●	G-Y	●		●	●		●
203314	M3D01		●					1x2		●	●	●	●	G-G	●		●	●		●
203315	M3D01		●					1x2		●	●	●	●	G-R	●		●	●		●
203316	M3D01		●					1x2		●	●	●	●	O/G-O/G	●		●	●		●
203340	H3D01				●			1x4		●	●	●	●	G-G	●		●	●		●

Perfect solutions for many applications



ERNI Modular Jacks with integrated magnetics are compatible with common PHYs of well-known manufacturers.

In addition to recommendations of your chipset manufacturer a reference matrix to select the appropriate magnetics circuit is available on ERNI website.

If the exact requirement for your application is not shown, please contact your ERNI representative.



Member





ERMEC, S.L. BARCELONA
C/ Francesc Teixidó, 22
E-08918 Badalona
(Spain)

Tel.: (+34) 902 450 160
Fax: (+34) 902 433 088
info@ermec.com
www.ermec.com

ERMEC, S.L. MADRID
C/ Sagasta, 8, 1ª planta
E-28004 Madrid
(Spain)

PORTUGAL
portugal@ermec.com
BILBAO
bilbao@ermec.com

ERNI Electronics GmbH

Seestrasse 9
73099 Adelberg, Deutschland
Tel +49 (0)71 66 50-0
Fax +49 (0)71 66 50-282
info@erni.de

Europe South America Africa Japan

ERNI Electronics, Inc.

3005 E. Boundary Terrace
Midlothian, VA 23112
Tel +1 (804) 228-4100
Fax +1 (804) 228-4099
info.usa@erni.com

North America Canada Mexico

ERNI Asia Holding Pte Ltd.

Blk 4008 Ang Mo Kio Avenue 10
#04-01/02 Techplace I
Singapore 569625
Tel +65 6 555 5885
Fax +65 6 555 5995
info@erni-asia.com

Asia

www.erni.com

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